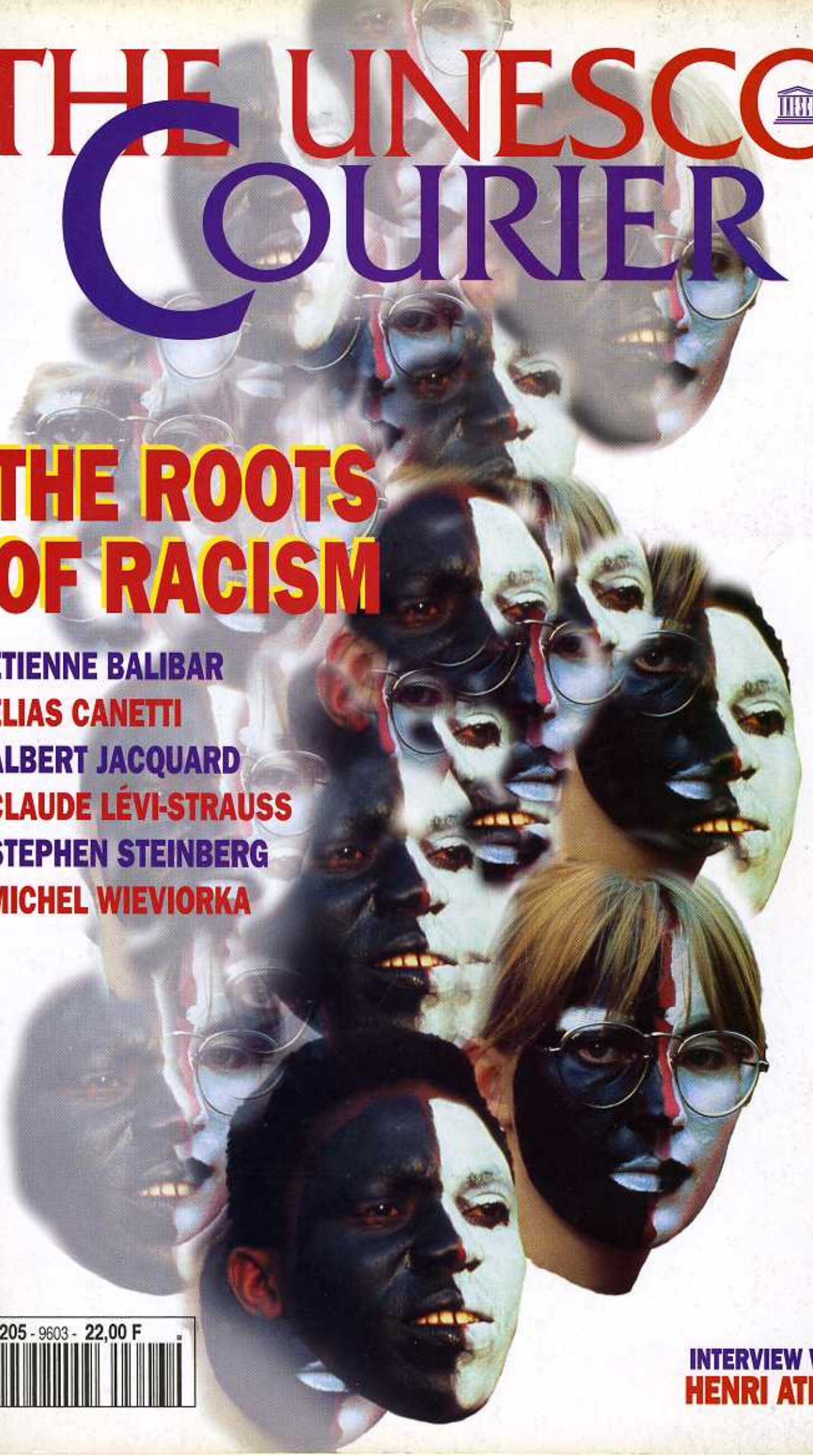
MARCH 1996

THE UNESCO COURIER



THE ROOTS OF RACISM

ETIENNE BALIBAR
ELIAS CANETTI
ALBERT JACQUARD
CLAUDE LÉVI-STRAUSS
STEPHEN STEINBERG
MICHEL WIEVIORKA

INTERVIEW WITH
HENRI ATLAN

M 1205 - 9603 - 22,00 F

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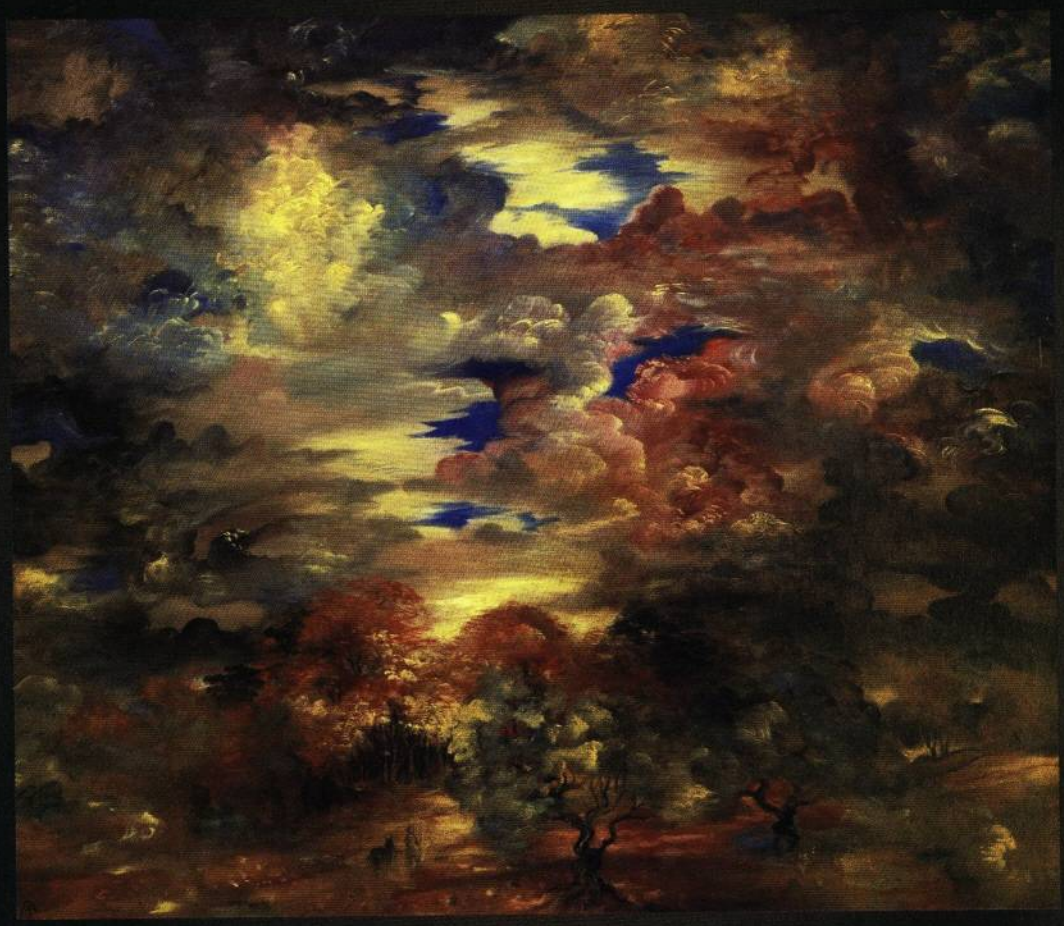
ENCOUNTERS

We invite readers to send us photographs to be considered for publication in this feature. Your photo should show a painting, a sculpture, piece of architecture or any other subject which seems to be an example of cross-fertilization between cultures. Alternatively, you could send us pictures of two works from different cultural backgrounds in which you see some striking connection or resemblance. Please add a short caption to all photographs.



***After the Storm, Kamavardhani raga* (evening raga)**

1990, oil on canvas (100 x 81 cms)
by Steve-Lecler

French painter and musician Steve-Lecler is steeped in Indian culture and has set out to render in his paintings the melodic patterns of Hindu music known as ragas. In Indian musical tradition each raga corresponds to a mood connected to a specific time of day, season and emotional state.

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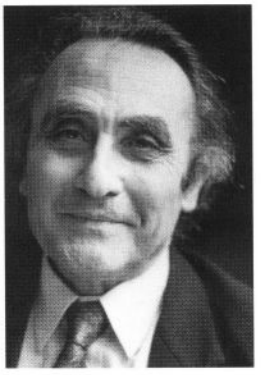
THE UNESCO COURIER
49th year. Published monthly in 30 languages and in Braille

Biologist **Henri Atlan** *discusses the scope and limits of science (p. 4).*



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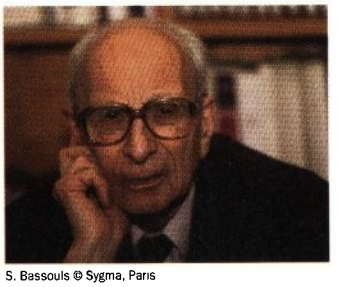
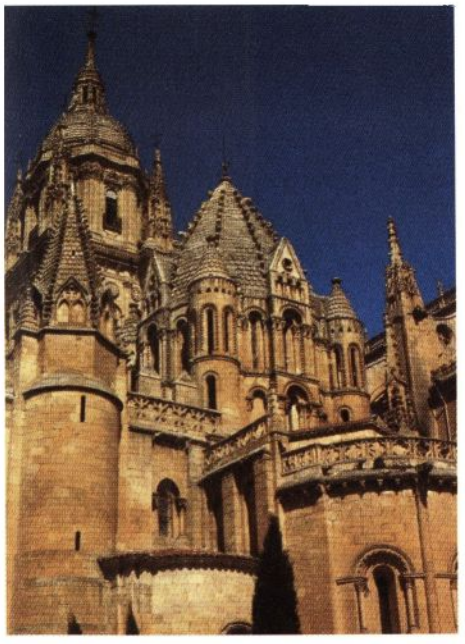
Major texts by **Elias Canetti** *(p. 26) and* **Claude Lévi-Strauss** *(p. 30) help to elucidate this month's theme.*



S. Bassouls © Sygma, Paris

A tour of **Salamanca** *(p. 38), the Spanish university city of spiritual and architectural renown.*



Fabrice Rouland © Top, Paris

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Cover: Anti-racist demonstrators (France, 1992).
Photomontage: Eric Frogé and Georges Servat.
Photos: B. Bisson and A. Noguès © Sygma, Paris

Henri Atlan

The frontiers of science

The French biologist Henri Atlan, professor of biophysics at the University of Paris VI and at the Hebrew University of Jerusalem, has won an international reputation for his research on the self-organization of cells and artificial intelligence. Notable among his published works are *Entre le cristal et la fumée, Essai sur l'organisation du vivant* (Seuil, Paris, 1979), *A tort et à raison, Intercritique de la science et du mythe* (Seuil, Paris, 1986), *L'Organisation biologique et la théorie de l'information* (Hermann, Paris, 1992) and *Questions de vie, Entre le savoir et l'opinion* (Seuil, Paris, 1994). Here he talks to Géraldine Schimmel about some topical matters arising from the relationship between science and society.

■ **Science was vested with an immense hope that it would explain everything, help people to live, and provide a basis for ethics. How do things stand today?**

Henri Atlan: It is now clear to most scientists that this hope is groundless. Unlike the religions, ideologies and philosophies that claim to give meaning to the universe and to people's lives, science owes its successes to its method, which involves carefully circumscribing a subject for study and contenting itself with local explanations that hold good in a certain well defined field. Science and technology have been effective in dominating matter, but unable to give meaning to life or solve social, political or moral problems. There is still a nostalgic hope that science may provide us with Truth with a capital T, a single truth from which it will then deduce individual, social, political or some other form of Good; but this is simply nostalgia.

■ **An illusion?**

H. A.: Of course. A piece of nostalgia based on the illusion of a universal theory that would explain everything, things as they are and as they ought to be. This is what is known in English as the naturalistic fallacy, deducing what "ought to be" from what "is". "What ought to be" is actually the product of our imagination and of our desires, and is not usually deducible from "what is". Knowledge of "what is" enables us to realize the constraints that impose limits on our imagination, limits which it is usually impossible to transgress.

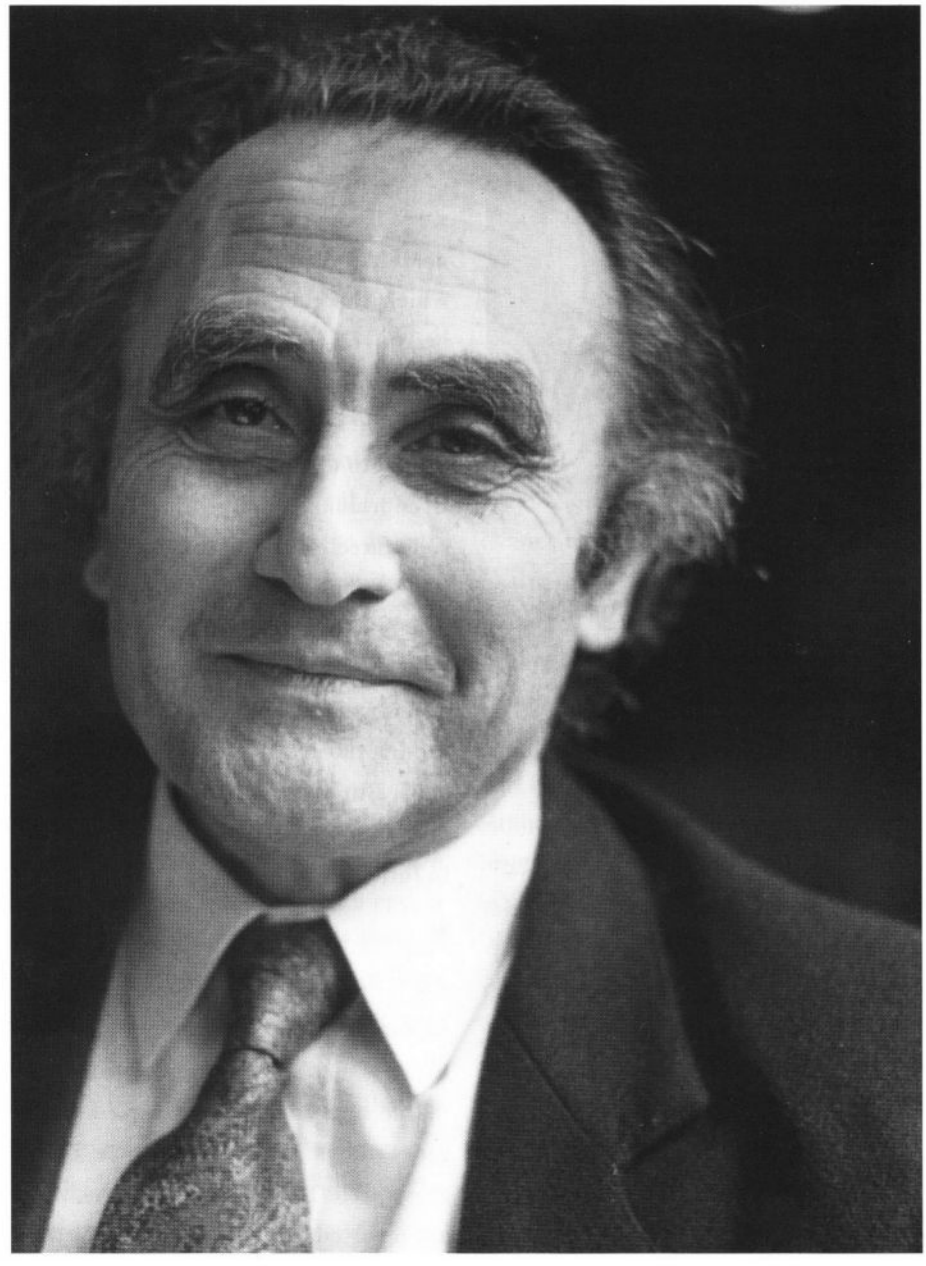
■ **Are science on the one hand and myths and religions on the other based on the same rationality?**

H. A.: Not at all. In my book *A tort et à raison* I tried to demonstrate that there are several sorts of rationality—something which is not self-evident. Many people still believe that only science is rational, and that what is not scientific is necessarily irrational. But every myth expresses, in its own way, a kind of rationality which is different—in terms of its method, its objectives and its means of verification—from that of scientific thought. It is wrong to get them mixed up. The same reason is involved, but the ways in which it is applied are different.

■ **You have said that the real generator of objective knowledge is**

It is wrong to think that only science is rational. Every myth expresses a kind of rationality which is different from that developed by scientific thought.

Henri Atlan at a UNESCO Philosophy Forum on the theme "What We Do Not Know" (Paris, March 1995).



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mastery of nature and that ethics is the motor of mystical and religious traditions. What happens when ethics is required to deal with objective knowledge?

H. A.: That is a quite straightforward matter. It's the reverse situation that raises problems. It is indispensable that ethics should be concerned with the use made of science-based technology, insofar as technology raises moral questions that the sciences are unable to answer. Let's take an example from the field of biomedical ethics: is the real mother the woman who carries the child or the one who supplied the egg that is fertilized and then implanted? This question did not arise before technology made it possible to separate the uterine and ovarian aspects of maternity. In this field the progress of science and technology has created problems—of legitimacy, of good and evil, of what is permitted and what is not—that did not exist before and that neither biology nor medicine alone can solve.

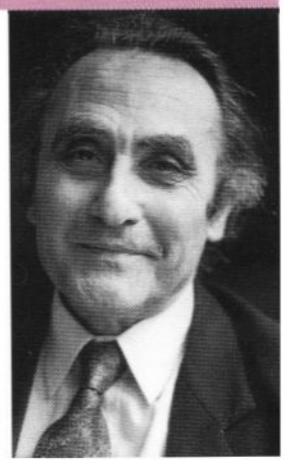
■ **You have rejected the term 'bioethics'. Why?**

H. A.: I don't like the term because it implies the existence of a new discipline derived from biology, rather like biophysics or biochemistry, and suggests that via bioethics it may be possible to find, within biology itself, the answers to the ethical problems posed by biology. But this is not at all the case. Biology poses problems of an ethical nature, but it does not solve them, even if it is clear that we cannot begin to tackle them without an understanding of their biological roots. Solutions will result from different ethical approaches that vary from person to person and culture to culture. These problems are so new that people belonging to the same tradition often respond spontaneously to them in totally different ways.

■ **Is thinking about the problems posed by new scientific discoveries exclusively a matter for specialists?**

H. A.: Certainly not. It is vitally important that questions about the rights or wrongs of using a given biological technique should be asked by people outside the field who have a broader, non-partisan approach to it. In fact this is increasingly being done by so-called biomedical ethics committees. The members of these committees include experts who explain to the best of their ability the scientific background of the problems, but also philosophers, religious leaders, sociologists, psychologists and especially legal experts, who—even though their answers are, perforce, fragmentary and incomplete—have to give an opinion on what is permissible and what is not.

Henri Atlan



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■ What about the general public?

H. A.: They are faced with two problems. On the one hand, biologists don't have a big platform on which to make their science known. On the other, the media present problems in a way that is inevitably incomplete and sometimes biased. The general public is forced to decipher a confused message which reflects a debate between specialists filtered through the media, which try to explain to their audience the issues involved in complex questions to which there are no simple, ready-made answers.

■ Do you think that fear about advances in genetics is justified?

H. A.: It depends on what kind of fear you are talking about. Abuses are always possible, but they existed before advances in genetics. Don't forget that the most horrible eugenic policies this century were implemented by the Nazis without the help of genetics. Technology is not necessarily dangerous in itself. Its application can be, however, if it is left to the discretion of criminals. This is one of the reasons why a minimum of legislation is necessary. Applying to human beings some of the genetic techniques that are applied to animals (making chimeras, transgenic individuals whose genome is modified in such a way that it is largely impossible to know what will come from it) is obviously criminal. This must be made quite clear, so that no geneticists should feel authorized to go in for such practices.

In any case almost all geneticists agree that a clear distinction should be made between therapeutic activities in which the genes of somatic cells (the body's non-reproductive cells) are modified, and activities designed to modify the genes of germ cells (cells transmitted to descendants). The difference is enormous: modifying the genes of somatic cells is no more dangerous than, for example, x-ray therapy. Treating a cancer with x-rays entails a lot of mutation of cells, but not of germ cells. Most ethics committees have completely forbidden the use of gene therapy on germ cells. But how can we be sure that this prohibition will be maintained unchanged in future?

■ Does the same prohibition also apply to disease-bearing germ cells?

H. A.: At present it is strictly forbidden to try to manipulate sperm, ova and fertilized eggs to replace disease-bearing genes with normal genes because, I must stress, cells transmitted to descendants are involved. A very important distinction must be made about the purpose of genetic techniques. Are we trying to treat a person with a specific disease or are we trying to modify the human species? Insofar as we are dealing with individual therapy, classical standards of medical practice and biomedical ethics that are now developing make it possible to distinguish, sometimes on a case-by-case basis, between what is and what is not allowed. But imagining that we are going to modify humanity is the same irresponsible fantasy that has been at the root of all eugenic disasters.

■ Can standards of ethical practice, ethics committees and legislation slow up research and development?

H. A.: Some people think they should. I don't agree with that at all. In any case it would be impossible. First of all because as soon as you know something, you can no longer behave as if you didn't know it. Secondly, because it is impossible to know in advance what results a research programme is going to lead to. Research programmes can't be stopped on the pretext that they may be dangerous. Obviously it is always possible to stop certain specific applied research programmes that do not come under the heading of basic research. But that is not the same thing as putting a brake on research or halting scientific progress. The ban on applying certain research techniques to human beings has always existed; implicitly before the Second World War, and explicitly after the trial of Nazi criminal doctors at Nuremberg. That was when biomedical ethics began to be established.

■ The Nobel Prize-winner Albert Szent-Györgyi once claimed that 'life as such does not exist'?[1] Wasn't that a strange thing for a biologist to say?

H. A.: He said that at the beginning of the century, but it's even more obvious today. It simply means that life does not exist as an object for biological research. Biologists today are not preoccupied

The progress of science and technology has created problems that did not exist before and that neither biology nor medicine alone can solve.

with knowing what life is. They study systems, organisms, and try to understand how they work, i.e. the physical-chemical mechanisms of what structures them and of what they do. This being the case, life has completely disappeared as a subject of research for this science that is still called the science of life!—but this does not mean that it no longer exists. It is still a matter of subjective experience: it's our life. But it no longer has anything to do with biology.

Imagining that we are going to modify the human species is an irresponsible fantasy that has been at the root of all eugenic disasters.

■ **What difference is there, then, from a biological point of view, between a living being and a dead one? Between the animate and the inanimate?**

H. A.: From a physical-chemical point of view it's merely a change of state. The same applies to the soul, which is no longer a subject of scientific research. In the past these two notions were inextricably linked: a living being was living because of having a soul that bestowed that particular quality. This idea goes back to Aristotle. It dominated the West until the Renaissance, but has now disappeared.

■ **In the view of scientists, what role does chance play in the organization of nature?**

H. A.: When we study systems that are not simple (living organisms, some physical systems and interlocking chemical reactions, for instance) we can see—since we don't know everything about them—that the best way to understand and achieve even a very slight measure of control over them is to take this ignorance into account. Chance appears in the form of phenomena that arise at random. For example, the evolution of species is considered to be an effect of genetic mutations supposedly occurring by chance in individuals. This does not mean that the mutations do not have causes. They do have causes, in fact, some of which we know fairly well: cosmic radiation, natural (or artificial) radioactivity and exposure to chemical substances that exist in nature or are even stored in specific kinds of waste. Mutations always have physical causes. The only random element has to do with their possible effect on an organism; in other words, there is no link between the cause of a mutation and the change it will effect in the functioning of the organism in question.

■ **What is self-organization?**

H. A.: The classic example is that of a hen's egg. When you look at an egg, it doesn't seem very complicated. Even when you examine it under a microscope you find it only consists of one cell. But the chicken that will emerge from it will consist of a large number of cells that are very different from one other.

The same principle applies to the development of species. All palaeontological data show that we began with relatively simple, single-cell organisms, like seaweed or paramecia. Multi-cell organisms appeared much later, but they were still fairly simple with roughly similar cells. Then more complex organisms began appearing with diversified cells performing different functions.

What we have to understand is how a piece of matter that appears poorly organized to us—rightly or wrongly—can evolve using its own properties to a more complex state of organization. Vitalist theories said it was the life force. The French philosopher Henri Bergson himself said that the organization of living organisms was explained by what he called an "élan vital". But now that this kind of explanation is no longer accepted, we have to find a physical theory capable of describing these self-organizing mechanisms. This is where chance comes into it. It seems to play a positive role in the sense that it may permit a state of things to be modified in the direction of greater organization. In the past chance was thought to be nothing but a source of disorganization. But certain factors that can only be considered as random, as the product of chance, may on the contrary encourage the appearance of more organized states. There is nothing magical about this. To call something "chance" is only a way of formalizing factors we are ignorant of.

But this is only a summary description of one possible form of self-organization. There are many others which use computer models that enable us to study how complex forms and functions can be produced by interconnected networks of simple elements.

■ **Has chance replaced the magic of the Middle Ages?**

H. A.: Not at all. We're talking about chance which is formalized and tamed, and thus forms part of laws—laws of probability that are decisive.

■ **Is there any order in nature?**

H. A.: Undoubtedly; and probably more than one. But the person who could tell us about it would need to be very bright indeed. Science is trying to discover certain regularities that look like order. ■

1. See H. Atlan and C. Bousquet, *Questions de Vie*, Seuil publishers, Paris, 1994.

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LETTERS TO THE EDITOR

MAP HAPPY

I thought your December 1995 issue ("Troglogytes, a hidden world") was very interesting, but a few maps showing the sites mentioned in the articles would have made it easier to read.

Jacqueline Lemercier
Turretot (France)

We have started to publish maps in our "Heritage" feature (see the January 1996 issue "Dance, the sacred fire"). Editor

OPERATION SOLIDARITY

Each month since I have been receiving the *Unesco Courier* I feel more closely involved in all that is happening in the world; I feel that the whole world is my home. I received my subscription from a donor as part of your Operation Solidarity campaign, and I am writing to encourage you to continue this excellent initiative and to thank the person who took out my subscription. I hope Operation Solidarity will go on so that people like me, who cannot afford to subscribe, may continue to enjoy your magazine.

An Algerian teacher

If you would like to offer a gift subscription to the Unesco Courier *to a reader in a developing country or a country of Eastern Europe, use the insert form in this issue, clearly indicating that you wish to take part in "Operation Solidarity". Send the form to Solange Belin,* Unesco Courier, *31, rue François Bonvin, 75732 Paris Cedex 15, France. We will give you details about the beneficiary of your solidarity subscription and pay postage to the recipient's country.*

A TOOL FOR AIDS WORKERS

Faithful to its tradition, your magazine featured in its June 1995 issue ("Aids, a worldwide emergency") a series of valuable articles written in very simple, easily understandable language. I am sure that it will prove immensely useful to the social communicators of non-governmental organizations working in the developing world.

Alexiri Van Arkadie
Co-ordinator, Projects Appraisal Group (FAO)
Rome (Italy)

HUNTERS—A PROTECTED SPECIES?

I was unpleasantly surprised to find a short news item entitled "Hunters—a much-maligned species" in the Greenwatch section of the October 1995 issue ("The United Nations, Why it matters"). I fail to see why the proliferation of hunted animals should be big news, nor how the proliferation of some species (even if hunters are indirectly responsible) can be considered a positive sign of the health of the environment. In general it seems to me that, on the contrary, it is a sign of an imbalance—albeit one that hunters hasten to correct! I trust that this will be nothing more than a momentary lapse by your admirable magazine and that I will have no reason to regret my subscription in the coming months.

Christian Villard
Ornacieux (France)

What is a news item in favour of hunting doing in the Greenwatch section of your October 1995 issue? Certainly the text is carefully worded and expresses certain reservations, but the message that will stay in people's minds is that hunters protect nature. I would suggest that nature cannot be protected by people wielding guns. The ecological balance is not aided by reintroducing species that are "interesting" to hunt. The real balance is infinitely more complex and is not limited to deer and elk. I hope the *Unesco Courier* will be more careful in what it says about this topic in future and will not make excuses, however unintentional, for hunters.

Gilberte Wable
Drucat (France)

A HANDY GUIDE TO THE U.N.

Congratulations on your October 1995 issue ("The United Nations, Why it matters"). The extremely readable and informative articles add up to a very useful beginners' guide to the U.N. I made extensive use of the issue when preparing a lecture I gave recently to more than 200 students from four big Dakar high schools. I thought of you when the children gave me a standing ovation. Thank you and bravo!

Diomansi Bombote
Unesco, Dakar (Senegal)

THE *COURIER* TO TAKE PART IN PARIS MAGAZINE FAIR

The *Unesco Courier* will have a stand at the 6th Paris Magazine Fair (*Salon de la Revue*), which will be held at the Parc des Expositions de Paris, Porte de Versailles from 22 to 27 March 1996. More than 600 magazines will be represented at this major event, which is being held in conjunction with the 16th Paris Book Fair (*Salon du Livre*), the Book Industry Fair (*Salon des métiers du livre*) and the Multimedia Fair (*Salon de l'édition électronique*).

The Fair, which is attracting more and more visitors each year, is a popular meeting place for publishing professionals and the general reading public. For further information, contact OIP, 62, rue de Miromesnil, 75008 Paris. Tel.: (33-1) 49 53 27 18 or 49 53 27 00; Fax: (33-1) 49 53 27 88.

ERRATUM

In our June 1995 issue ("Aids, a worldwide emergency") an error appeared on page 36 in Marc Girard's article "The search for a vaccine". It has been estimated that an HIV-1 vaccine would be administered yearly to "about 300 million persons worldwide", and not to "about 300,000", as published.

Month by month

In one sense this issue on racism is a follow-up to last month's number devoted to the mechanisms of complex thought. The astonishing advances of genetics are a new reminder of the need to think in complex terms, of how dangerous it is to make do with simple explanations, to float on the surface, confuse the foam on the billows with the depths of the ocean.

A day rarely seems to go by without the announcement that scientists have discovered genes that trigger diseases such as certain cancers and cardio-vascular ailments, and conditions such as obesity. One gene may even predispose people to suicide; another to a spirit of innovation.

Such news items report on highly complex scientific research that may one day lead to major breakthroughs in technology and therapy. When they are presented in oversimplified form to hundreds of millions of non-specialized readers or televiewers, they may have a grossly misleading effect. Instead of regarding the gene as one key among others to the mystery of life, many people come to believe that genetics can explain everything. The impression spreads that we are programmed—even before birth—to possess certain qualities and certain defects, perhaps even a predisposition to good or evil.

As well as attaching excessive preponderance to nature over nurture, this approach leads to a perfidious mixture of value judgements and clinical observations. A potential defect comes to be regarded as inevitable. A weak point is magnified into total infirmity. This deviation towards simplistic determinism is bad enough when it leads to the establishment of hierarchies and of inequalities between individuals. It becomes criminal when it seeks to define classes of people which are inherently endowed with a certain weakness or a certain token of superiority. Genetics is not at fault here, but it may, like Darwinism in the late nineteenth century and biology early in the twentieth, serve as a new pretext on which to base old prejudices.

We are living at a time when racism is again rising from its ashes and manifesting a virulence and pervasiveness that we hoped had disappeared at the end of the Second World War. This is why we have thought it necessary to go to the roots of this evil phenomenon, to the obscure origins of racism, to the enigma that underlies it and perpetuates it in various guises in different times and places.

What causes racism to appear and reappear?

One contributor to this issue, French sociologist Michel Wieviorka, suggests that racism is a corollary of modernity, and that its resurgence is a result of the collision between economic globalization and cultural individualism. Etienne Balibar argues that it is a fearsome instrument of collective identification, the evolution of which often goes hand in hand with modes of social domination. American sociologist Stephen Steinberg believes that only interventionist policies can shake the structures in which discrimination is enmeshed. Geneticist Albert Jacquard reminds us that however often science exposes the alleged "scientific" justifications of racism, racism continues to feed on our fears and repressions.

We also publish excerpts from landmark texts by Elias Canetti and Claude Lévi-Strauss to round off our analysis of an evil that Gandhi once admitted was for him a "mystery".

BAHGAT ELNADI AND ADEL RIFAAT

The seeds of hate

by Michel Wieviorka

Crisis in the modern world is fanning the embers of racism and nationalism

In the wake of the Second World War and, later, of decolonization, Western societies had reason to believe that racism in their countries would gradually fade away. After the discovery of the Nazi concentration camps and gas chambers, antisemitism could no longer be regarded as a matter of opinion; it had become a crime and a taboo. Colonial racism ceased to have any justification when colonized peoples achieved independence. The modern age beckoned, and nothing seemed likely to halt the march of progress.

An elderly woman with the yellow star Jews were forced to wear by the Nazis.

© AKG, Paris

Then, in the early 1970s, the situation altered radically. The idea that political and economic change would lead towards more and more growth and democracy and less and less poverty, racism and anti-semitism began to run out of steam.

The first signs of this reversal appeared in the United Kingdom in the late 1960s when Enoch Powell criticized current immigration policy in the name of English nationalism, and when the National Front movement emerged. During the 1980s, racism, xenophobia and anti-semitism became features, often central features, of political life in most European nations.

A rising tide

Today, the situation is particularly disturbing. A number of studies and surveys have shown that racial discrimination in employment and housing has become widespread in the United Kingdom. There has been an upsurge in racist violence, mainly in towns and cities but also in rural areas. In France, where public opinion polls reveal growing race prejudice and racialist attitudes, the most conspicuous sign of racism has been the rise of a populist nationalist party, the Front National, which has scored considerable success in elections since 1983. The party gives shape to popular feelings in which racism, more than antisemitism, has an important place. In France, a country where racist violence is limited in extent, race discrimination is a less central issue than that of social and ethnic exclusion. The French experience is different from that of Britain, where there is little specifically political expression of racism.

Racism in the former Federal Republic of Germany took real but limited form in xenophobic campaigns linked to economic downturns in 1966-1967 and 1974 and in the treatment of Turkish immigrants. The situation changed radically with reunification. After

Mathieu Polak © Sygma, Paris

A British National Party (BNP) demonstration against a multiracial society (United Kingdom, 1991).

the bombing of a hostel for immigrant workers in Hoyerswerda in September 1992 a wave of violence swept through the former German Democratic Republic and then spread throughout the country. In this case the violence had more to do with xenophobia than with racism and involved groups of skinheads or neo-Nazis. At the same time anti-semitism gained some ground, and Jewish cemeteries were desecrated. Racism, xenophobia and anti-semitism also had a political impact as extreme right-wing groups did well in elections. This breakthrough was not however followed up in elections in the mid-1990s.

In Italy, whose traditional non-racist credentials include the reluctance of the fascist regime to take its cue from Nazi anti-semitism, racism has been a subject of concern to the media and intellectuals since the early 1990s. Racism exists on a very limited scale in what was for many years a country of emigration but has now become a country of immigration. It mainly consists of social tensions due to dislocation of the urban fabric where there are large numbers of immigrants, or to economic competition from immigrants on the clandestine job market, in door-to-door trading or in illegal trafficking, especially in drugs. It gets more exposure in the media than in politics. Anti-immigrant racism was only a minor plank in the platform of the populist Leagues of northern Italy during their ascendancy in the early 1990s. It would be misleading to compare these movements with the French Front National, for instance.

In Belgium, on the other hand, racism is above all political and institutional. There is very little violence, but extreme right-wing parties are growing, especially the Flemish Vlaams Blok party, whose focus on intercommunity differences is largely shaped by the crisis of the state and Belgian national identity as well as by tensions between the Flemish and Walloon communities and Brussels.

This review of the situation in individual European countries could be taken further. The essential point, however, is that we are dealing with a problem whose common features transcend differences in the ways in

In the early 1970s, the situation altered radically. The idea that change would lead towards more growth and democracy and less poverty and racism began to run out of steam.

Eligio Paoni © REA, Paris

An anti-racist demonstration (Italy, 1995).

which racism, xenophobia and antisemitism are expressed.

Crumbling structures

Throughout Western Europe the structure of situations that had been relatively stable until the 1970s is tending to change. European societies were industrial societies with strong labour movements that played a central role in social, political, cultural and intellectual life. Now these societies have entered the post-industrial era and their labour movements have split up and atrophied. They have lost the power to set the agenda of debate on the main social and political issues. Germany is no exception to this rule. Reunification posed serious problems to the German unions, which had stood up to the crisis in trade unionism more successfully than their counterparts elsewhere in Europe.

The problems of exclusion and social and economic polarization have become a major source of concern, and racism has found a new breeding ground. On the one hand the "poor whites", who are victims of social change or afraid of becoming so, regard immigrants as scapegoats. They act as if their own exclusion and social decline were the fault of immigrants, whose situation, moreover, they often share. On the other hand, people on the "right" side of the social divide act individually or collectively in ways that amount to building social and racial barriers to keep at arm's length the "dangerous" classes, to which the immigrants are widely considered to belong.

Throughout this century the European nations have developed welfare-state policies in an attempt to promote equality of opportunity and the redistribution of social resources. These policies have been under fire since the 1970s, primarily for economic reasons. The intensification of market competition combined with the globalization of the economy and the internationalization of business are increasing the cost of welfare policies to a prohibitive degree, especially at a time when the ranks of the unemployed are swelling and society is ageing.

In these circumstances, neo-liberalism made constant headway during the 1980s while social democrat-style approaches fell by the wayside. This explains the resentment and in many cases the populism of those who feel abandoned by the state and ignored and betrayed by the politicians. Once again these people think that they lose out to the immigrants, who abuse public institutions to the detriment of native-born citizens.

The question of identity has been a major preoccupation in Europe since the 1970s. There have been widespread appeals to specific allegiances. On the one hand, regional, religious and community loyalties have given a certain weight to the notion of ethnicity. On

A march in Paris to show solidarity with foreigners (France, 1993).

Antoine Gyori © Sygma, Paris

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Régis Bossu © Sygma, Paris

A demonstration to condemn violence against foreigners (Germany, 1992).

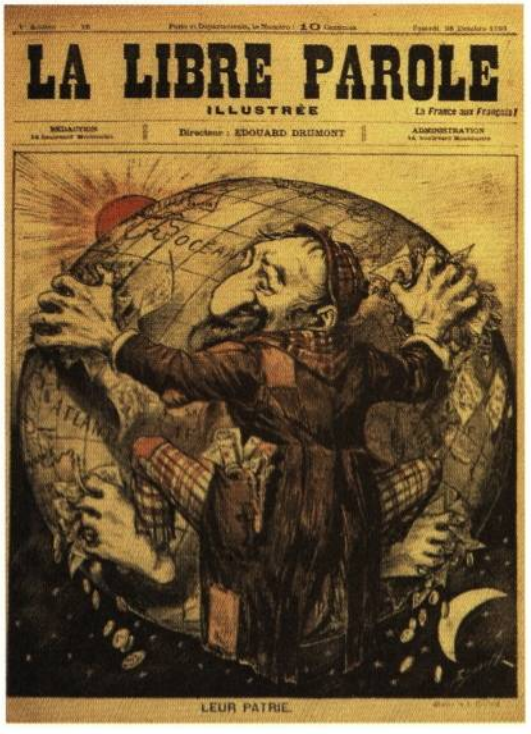
the other, manifestations of a tense and anxious nationalism have reflected varying degrees of xenophobia and racism and have been more intent on isolating nations from the outside world than opening them up to the universalist values of reason and democracy. These forms of nationalism usually reflect the feeling that national identity or culture are threatened. They accuse Jews and Gypsies, as well as immigrants, with being the perpetrators of a cultural invasion, and they point to the intransigent nature of their culture or religion. In this situation, racism becomes cultural.

A sombre outlook

This leads us to the hypothesis that we have entered a new era of European racism, concurrent with the triumph of modernity. It may take the form of a universalism that sought to subjugate colonized peoples and destroy them if they resisted, or to dominate and exploit them whilst allowing them to join the march of progress via the back door. It may take the form of a "differentialism" that regarded the Jews in particular as the symbol of the most controversial aspects of modernity—the cosmopolitanism of money and power, and even socialism and revolution.

Racism and anti-semitism faded into the background with the formation of national political frameworks which created the conditions, especially through education, for economic modernization and industrialization, expansion and cultural integration. Today these frameworks are disintegrating. Economic activity is taking place in an international context and more often than not seems at odds with the nation-state; institutions are collapsing; racism, xenophobia and anti-semitism are re-emerging in societies that find it increasingly difficult to connect the values of reason and economic progress with those of cultural and national individuality. ■

When nationalists accuse immigrants, Jews and Gypsies of perpetrating a cultural invasion, racism becomes cultural.



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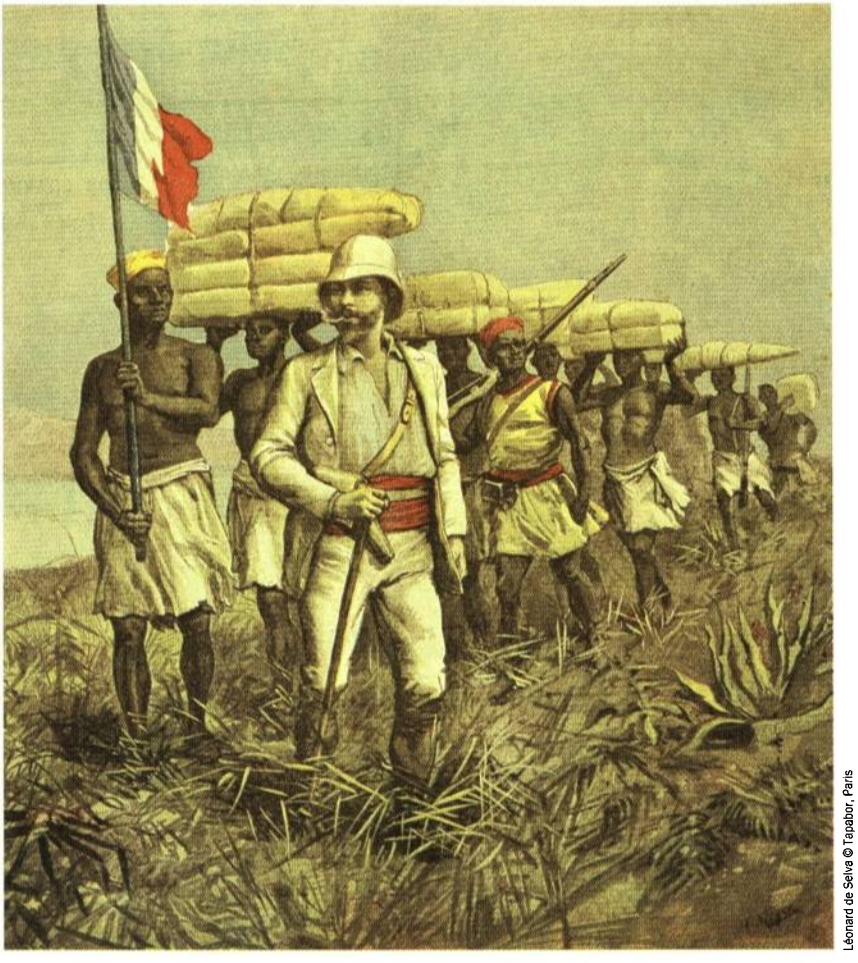

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Racism and anti-racism

by Etienne Balibar

The strangely ambiguous relationship between two incompatible ideas

Above left, front page of *La Libre Parole* (28 October 1893), an anti-Semitic daily founded in Paris in 1892.

Above right, a French explorer at a time when European colonialist powers were engaged in "the scramble for Africa". (Newspaper illustration, 9 July 1892).

The term "racism" seems to have been introduced into the English language in 1938 in a translation of a book by the German writer Magnus Hirschfeld which had appeared in German four or five years earlier and described the "racial theory" that underlay Hitler's conception of a war between races. The word thus seems to have been coined in Germany to describe the racism of the Nazi state, which was targeted primarily against the Jews but also against other "sub-human" peoples and groups and was based on the Aryan myth. In due course it came to acquire its internationally accepted meaning as a prejudice based on belief in the congenital inequality of human groups.

Pierre-André Taguieff, a French philosopher who has made an exhaustive study of the question, has discovered what he calls two "totally distinct appearances" of the word "racism" in France. The first, relatively episodic use of the word occurred between 1895 and 1897 and was connected with the founding of the authoritarian ultra-nationalist organization, Action Française, and of an extreme right-wing nationalist newspaper, *La Libre Parole*. The supporters of this movement, which actively propagated anti-semitism in France and also had close ties with colonial circles, described themselves as "racists", representatives of a "French race" that was to be preserved from degeneration. Then, between 1925 and 1935 the terms "*racisme*" and "*raciste*" made a come-back in France but this time were used in a broader sense to designate the doctrine of German fascism, and to translate its key adjective, "*völkisch*".

After the Second World War this second meaning and the accepted English usage of the word racism came to overlap. But in France the reference to nationalism was still of decisive importance, for attempts to stigmatize German-style "racism" were entirely organized around its difference from French-style "nationalism". The latter was presented as "universalist" and was regarded as having a "cultural" basis that was quite alien to the Germanic "naturalist" tradition, propped up by belief in the supposed biological immutability of "races". An ideology based on xenophobia and essentialism may thus lie at the roots of antiracism in France.

An ambivalent doctrine

This reasoning, which I have here simplified to an extreme degree, has shown up the ambivalence which may to some extent be characteristic of both anti-racist and racist thinking. The ambivalence of racism is manifest in the fact that it is based both on idealization of oneself ("master race") and on denigration of others as "degenerate", "sub-human" or "primitive". It also appears in the relationship of racism to universalism. Racism which heightens in a quasi-mystical fashion the illusion of the absolute uniqueness and superiority of a nation or group of nations that believe themselves to have been "chosen" paradoxically coincides with universalism when it attempts to set this supremacy in a context of universal history or natural evolution of all humanity.

It should not be surprising, then, that anti-racism, which also exists in the context of nationalism—the dominant state ideology of our era—should sometimes manifest a similar ambivalence. What is true of the French condemnation of "German racism" in a climate of nationalistic revenge is equally true of the condemnation of Nazism by the victors of the Second World War and of the condemnation of colonial racism by certain national liberation movements.

'Races' do not exist, but the word 'race' has been for an entire age the pivot of a vision of history and a confrontation between different outlooks on the world.

The notion of "race" has such a wide range of meanings that it can be used in many different contexts. "Races" do not exist, but the word "race" has been for an entire age the pivot of a vision of history and a confrontation between different outlooks on the world. While the meaning of certain words may have shifted as historical circumstances have changed, these changes of meaning have arisen from the same questioning about the relationship between biological heredity and cultural specificity that is suggested by the term "race".

***Cortés Arriving in Vera Cruz in 1519*, one of a series of murals by Diego Rivera (1930-1935) illustrating the conquest of the New World (National Palace, Mexico City).**

© Jean-Loup Charmet, Paris

Historically speaking, there is not a single racism but several successive ideological configurations, bound up with the conflicts of cultures and violent political practices.

This questioning may seem to have disappeared today but in all likelihood it has only moved to different terms.

The origins of modern racism

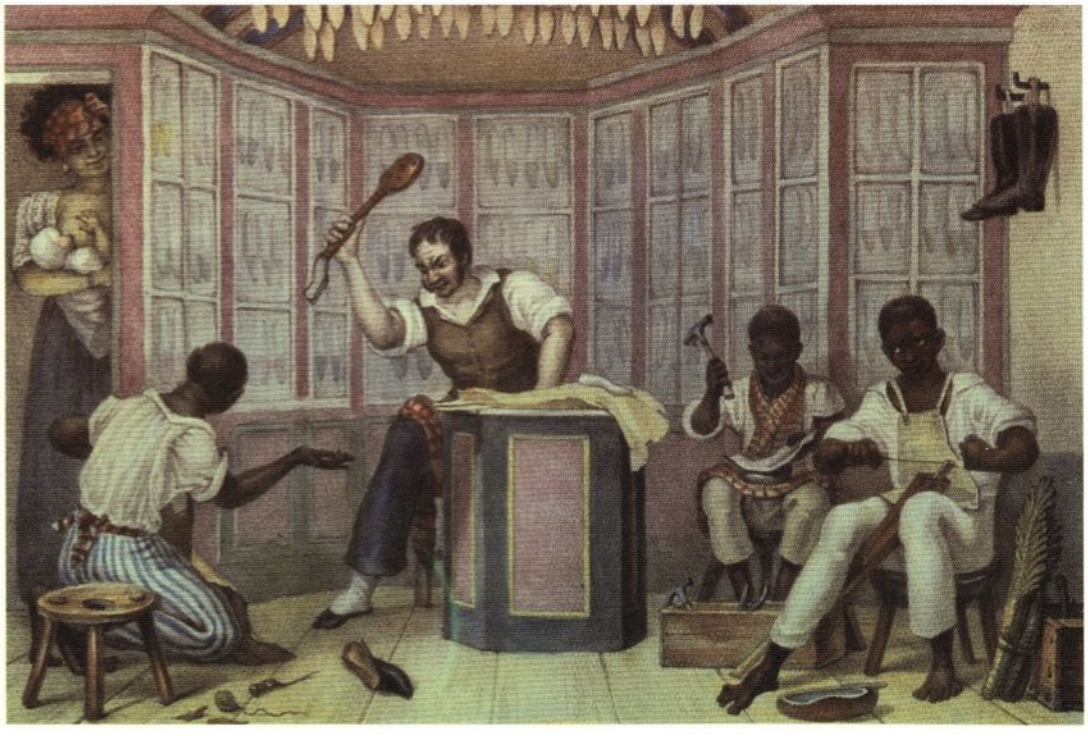
The history and critique of "racism" have lost their innocence. Since they are themselves historically and ideologically determined, they must face the blinding and retaliatory effects of the very language they use.

At the time when a standard definition of racism was taking shape, two important debates were underway. One centred on the relationship between "racism" and "anti-semitism", the other on the circumstances in which the specifically modern form of "racism" emerged. The first debate is far from over, but the second has given rise to a broad consensus that modern racism emerged in the late fifteenth century around the time when the Americas were "discovered". This was the starting point of the Europeanization of the world, and also of the formation of absolute monarchies (embryonic national states), the secularization of anti-semitism and the taming of aristocracies that would develop the ideology of the "purity of blood".

I am tempted to adopt the methodology of the current debate about the notion of "racism". A *single* racism did not appear in the West at one moment in history and disappear at another. There are *several* successive ideological configurations, closely bound up with conflicts between cultures and with the political practice of violence (particularly state violence). Each of these configurations expresses the tensions and internal antagonisms of a far-reaching attempt to achieve world domination: the Roman Empire, Christianity, European expansion, nationalism, the global market and, tomorrow perhaps, the "new international order".

Each configuration leaves a trace that goes into the makeup of a new "racism", which is thus always a "neo-racism". Thus there have been transitions from theological anti-Judaism to secular anti-semitism, from biological racism to cultural racism, and from colonial violence to post-colonial discrimination against people from the "South". Whether we like it or not, this is probably due to the fact that schemes for domination and discrimination (internal exclusion) are powerful tools for the identification of oneself and others, and thus of historical and collective memory.

The ambivalences and theoretical weaknesses of anti-racism obviously do not cast doubt on the need to combat racism. Just as the fluctuations of racist doctrine justifying discrimination and segregation cannot conceal the similarities between all these practices, so the continuity of anti-racism in every era is based on a perception of the intolerable inhumanity of racism and on its patent incompatibility with freedom. ■



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A cobbler and his slaves. An illustration by the French painter Jean-Baptiste Debret for his *Voyage Pittoresque et historique au Brésil* ("Colourful and Historic Journey to Brazil", 1834-1839).

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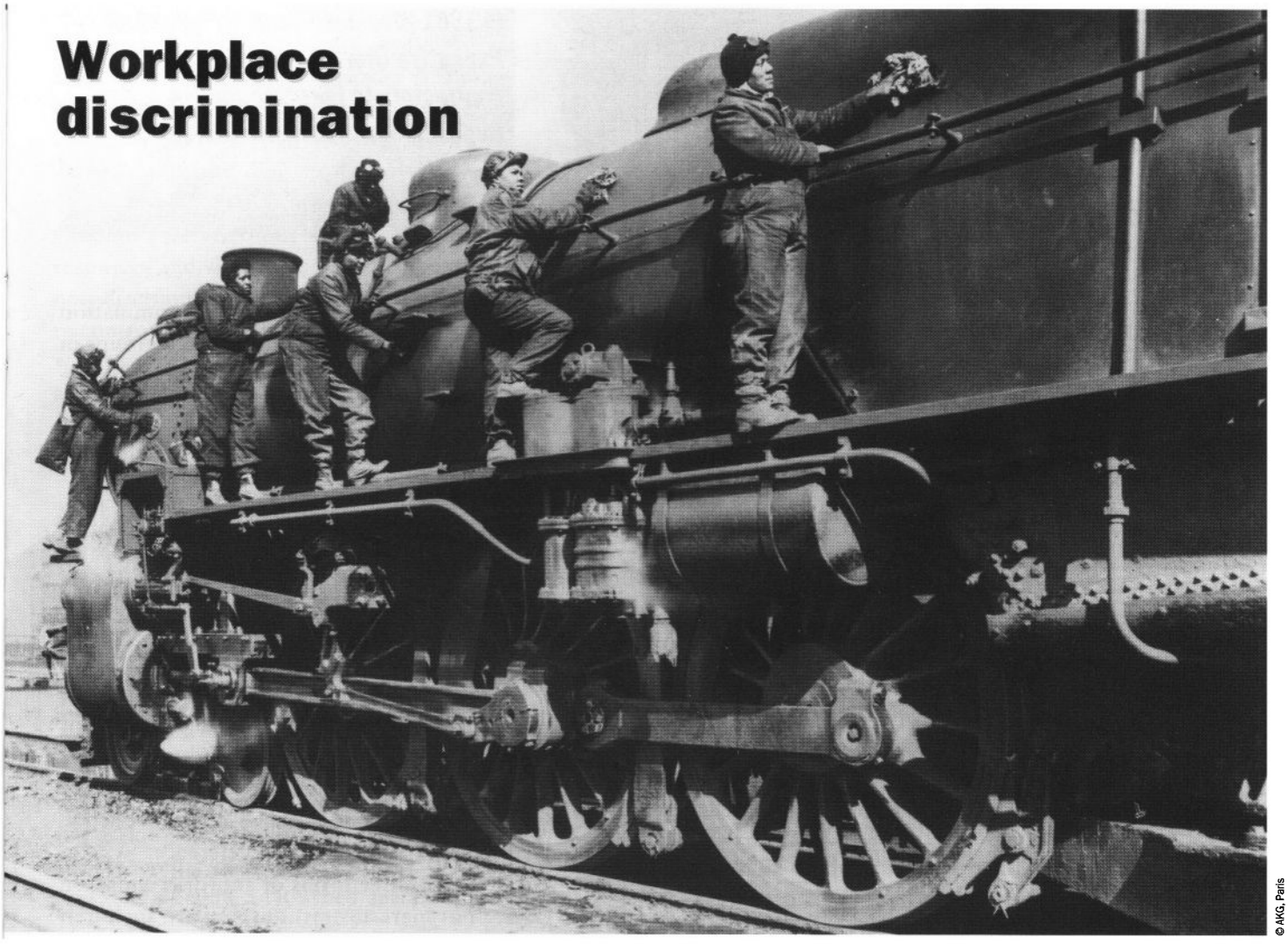

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The affirmative action debate

by Stephen Steinberg

In the U.S.A., government action to combat workplace discrimination against minorities faces growing criticism

Above, wartime women workers keep a locomotive of the Pennsylvania Railroad spick and span (1943).

The civil rights revolution in the United States was primarily a struggle for liberty, not equality. It sought to dismantle the system of official segregation that had been erected in the aftermath of slavery and to secure full rights of citizenship for African Americans. The abiding faith of the movement was that once the walls of segregation came tumbling down, blacks would be free to assume their rightful place in American society.

No sooner were the historic Civil Rights Acts of 1964 and 1965 passed, however, than it became clear that legislation alone would not address the deep-seated inequalities that were the legacy of two centuries of slavery and another century of Jim Crow. This was acknowledged by President Lyndon Johnson in a commencement address at Howard University in Washington, D.C., in June 1965, the very month that the Voting Rights Act received Congressional approval. As he told the graduating class:

"Freedom is not enough. You do not wipe away the scars of centuries by saying: 'Now you are free to go where you want, do as you desire, choose the leaders you please.' You do not take a person who for years has

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Two young readers in the Harlem district of New York (1930).

In 1961 President Kennedy issued an Executive Order requiring federal contractors to take 'affirmative action' to desegregate their workforce.

been hobbled by chains and liberate him, bring him to the starting line and then say, 'You are free to compete with all the others,' and still justly believe that you have been completely fair. We seek not just freedom but opportunity, not just equality as a right and a theory but equality as a fact and as a result."

Passive and active policies

Johnson's oratory was punctuated by the outbreak of racial violence in the Watts section of Los Angeles only two months later. In the ensuing years there were scores of other "riots" that threw American society into a deep political crisis, one that forced the nation to confront the issue of equality as well as liberty. This is the historical context in which affirmative action evolved as national policy.

Affirmative action has never been formulated as a coherent policy, but evolved incrementally through a series of presidential executive orders, administrative policies and court decisions. Partly for this reason, the term itself is so fraught with ambiguity that it is not always clear what advocates and opponents are squabbling about. Let us therefore make several crucial distinctions.

First, affirmative action must be distinguished from policies of non-discrimination. Although both seek racial justice in the workplace, policies of non-discrimination merely enjoin employers not to practise discrimination in the recruitment, hiring and promotion of workers. It is essentially a passive injunction *not* to discriminate. Affirmative action, on the other hand, commits employers to go a decisive step beyond non-discrimination and to *actively* seek out protected groups in employment. In this form—essentially "outreach" programmes reliant on the good faith efforts of employers—affirmative action arouses little or no opposition.

There is another form of affirmative action, however, that goes a decisive step beyond outreach and involves granting "preference" to minority applicants in order to guarantee the desired result. This is where controversy begins. For example, in his confirmation hearings to the Supreme Court in 1991, Clarence Thomas spoke passionately of his support for outreach programmes to extend opportunity to women and minorities, but he was equally adamant in his opposition to affirmative action programmes that involve preference.

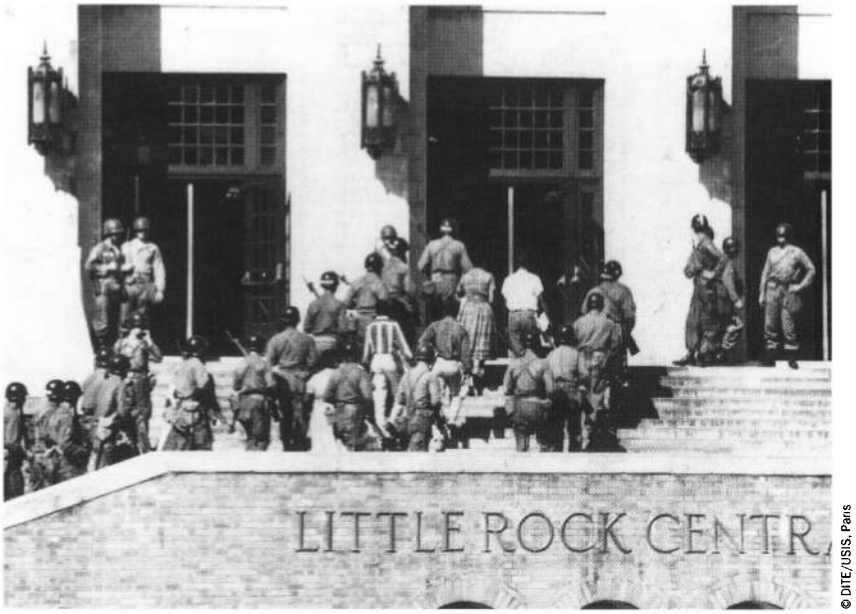
These three forms of anti-discrimination are not mere abstractions, but are anchored in history. Let us briefly review how social policy evolved from non-discrimination, to outreach, to preference.

Occupational apartheid

Africans were originally imported to the United States to provide labour in the South's evolving plantation economy. In the century after slavery, when tens of millions of immigrants from Europe were rapidly absorbed into the North's burgeoning industries, a colour line excluded blacks from employment in the entire industrial sector, with the exception of a few menial and low-paying jobs. When the Southern economy finally underwent modernization, blacks were still confined to "negro jobs"—servile and undesirable jobs that were reminiscent of slavery itself. As late as the 1960s, even as the civil rights movement reached its triumphant climax, the United States had, in effect, a system of occupational apartheid that excluded blacks from entire job sectors. Most black men worked as unskilled labourers; most black women as low-level service workers, especially domestics.

This racial division of labour went virtually unchallenged until the Second World War, when the black union leader A. Philip Randolph threatened a march on Washington unless blacks were given access to jobs in defence industries. This also led to the establishment of a Fair Employment Practices Committee. Even though the FEPC had few resources and virtually no power to enforce non-discrimination, it was quickly engulfed in controversy and disbanded as soon as the war was over. Here was an early sign that attempts to enforce compliance with non-discriminatory policies would encounter enormous resistance.

In the 1940s and 1950s a second FEPC, along with other federal and state agencies, preached non-discrimination, but with meagre results at best. Indeed, this is precisely what eventually led to a shift from non-discrimination to affirmative action. A major turning point occurred in 1961 when President John F. Kennedy, again in response to rising protest from the black community, issued Executive Order 10925, which required federal contractors to take "affirmative action" to desegregate their work force. Unlike similar declarations in the past, the presidential edict established specific sanctions, including termination of contract, to be applied against contractors who were not in compliance. Three years later Title VII of the 1964 Civil Rights Act proscribed employment discrimination on the basis of race, colour, religion, sex or national origin. A year later President Johnson issued Executive Order 11246 that put further teeth into affirmative action by requiring federal contractors to develop specific goals and timetables



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Little Rock (Arkansas), 1958. Federal troops called in to maintain order during school desegregation escort black students into Central High School for the first time.

Below, the "march on Washington", 1963. Some 250,000 people joined in this demonstration in support of equal rights for blacks. Many of the picket signs call for access to jobs.

© Keystone, Paris

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As part of a racial integration programme, a community worker teaches youngsters from a neighbourhood in Cincinnati (Ohio) how to handle a bow and arrow (1965).

for increasing the employment of women and minorities.

Corporate inertia

One might think that these developments would have dealt a fatal blow to America's system of occupational apartheid. This was hardly the case. In 1973—nine years after the passage of the 1964 Civil Rights Act—a telephone company which was the nation's largest corporate employer and a major government contractor still had a highly segregated workforce. The company employed 165,000 persons in low-paying operator classifications—99.9 per cent of whom were female. Of 190,000 higher-paying craft workers, 99 per cent were male. Virtually no women were in management positions, and even supervisory personnel in "female" departments were male.

The company, furthermore, could boast of "equal opportunity" policies that had increased black employment from 2.5 per cent in 1960 to 10 per cent in 1970, but this mainly reflected the hiring of black women as operators to replace white women who were experiencing a high rate of turnover. There were virtually no black males in craft jobs and even fewer in management. This was the context in which the Federal Communications Commission opposed a rate increase on the grounds of the company's discriminatory employment practices.

Eventually this resulted in a landmark consent decree with the Equal Employment Opportunity Commission (EEOC), the Department of Justice, and the Department of Labor in which the company paid monetary damages to aggrieved classes and agreed to change its employment policies and meet employment targets for women and minorities. According to a study on the impact of the consent decree, the programme got off to a poor start but by 1976, 99 per cent of its short-term targets had been reached. Furthermore, these gains occurred in the context of a declining labour force due to the impact of new technology.

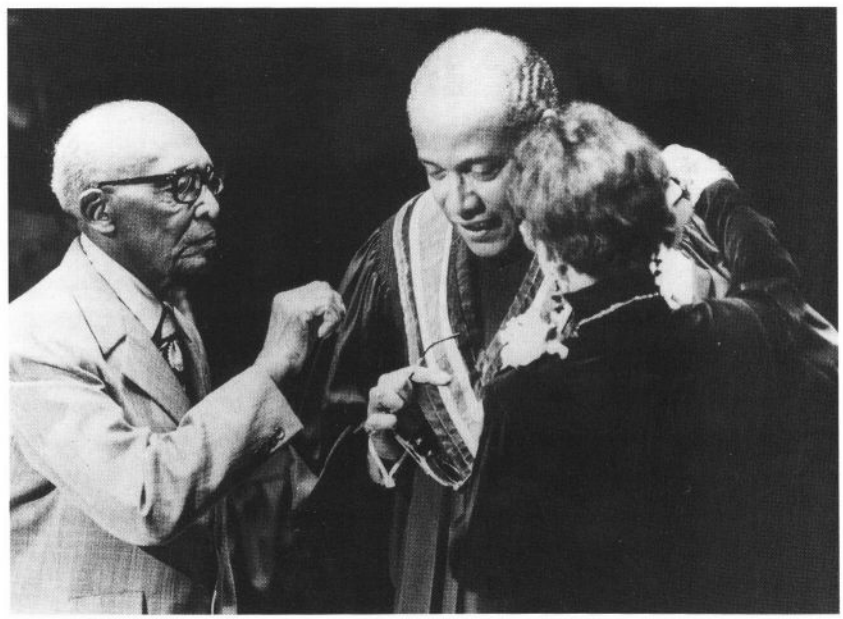
What's at stake

As this case illustrates, good-faith efforts to increase minority representation were generally ineffective until they were backed up by specific "goals and timetables" that, in effect, gave preference to minority applicants who met basic qualifications but might not have been hired or promoted without affirmative action mandates. Critics, of course, complain that this amounts to a system of de facto quotas. Like Clarence Thomas, they raise no objection to affirmative action so long as it involves "outreach", but reject affirmative action as soon as it involves "preference".

What these critics overlook, however, is that decades of preaching non-discrimination produced little or no change in the system of occupational apartheid. Indeed, this is why affirmative policy shifted from outreach to preference in the first place.

Unfortunately, no systematic body of evidence exists that would permit a precise accounting of what has been achieved under affirmative action. This much is clear, how-

Robert N. C. Nix Jr., the Chief Justice of the State Supreme Court of Pennsylvania during his swearing-in ceremony in Philadelphia (1984), when he became the first black to head a state supreme court in the United States. His father (left) was the first black congressman from Pennsylvania.



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Much progress, particularly the emergence of a large black middle class with roots in mainstream economic structures, is a direct product of affirmative action.

Bruce Davidson © Magnum, Paris

The Reverend Martin Luther King Jr. (centre) leads the Freedom March to Selma (Alabama) in support of civil rights for blacks (1965).

ever: the occupational spheres where blacks have made the most notable progress—in government service, in major blue-collar occupations, in corporate management, and in the professions—are all areas where vigorous affirmative action programmes have been in place over the past two decades. Before affirmative action, the black middle class consisted of a small number of professionals and businessmen anchored in the ghetto economy. Most of the progress that we celebrate—particularly the emergence of a large black middle class with roots in mainstream economic structures—is a direct product of affirmative action.

Thus, much is at stake in the current debate over the future of affirmative action. In recent years there has been a rising chorus of criticism against affirmative action programmes, and it has not come only from whites who feel that they are being asked to pay the price for crimes that they did not commit. Criticism also has been levelled by legal scholars who challenge the constitutionality of affirmative action and see it as betraying the cardinal principle of the civil rights movement itself: a colour-blind society. A new genre of black conservatives have denounced affirmative action as patronizing to blacks and subversive of black self-esteem. Even some liberals who say they support affirmative action in principle have concluded that it is self-defeating because it triggers a popular backlash that only serves their political enemies.

These are powerful arguments, based as they are on legal and moral principles as well as on political pragmatism. However, they fail to recognize the lesson of history: that even laws proscribing discrimination and well-intentioned efforts to increase minority representation were never effective until they were backed up with specific affirmative action mandates.

Thus, the problem is stated falsely when it is suggested that we must choose between merit or preference, or between the rights of individuals and the rights of groups, or between a colour-blind or a colour-conscious society. Rather, the paramount choice is between racial progress or returning to the status quo ante: the period before affirmative action when we salved our national conscience with laws on the books that did little or nothing to reverse centuries of occupational apartheid. ■

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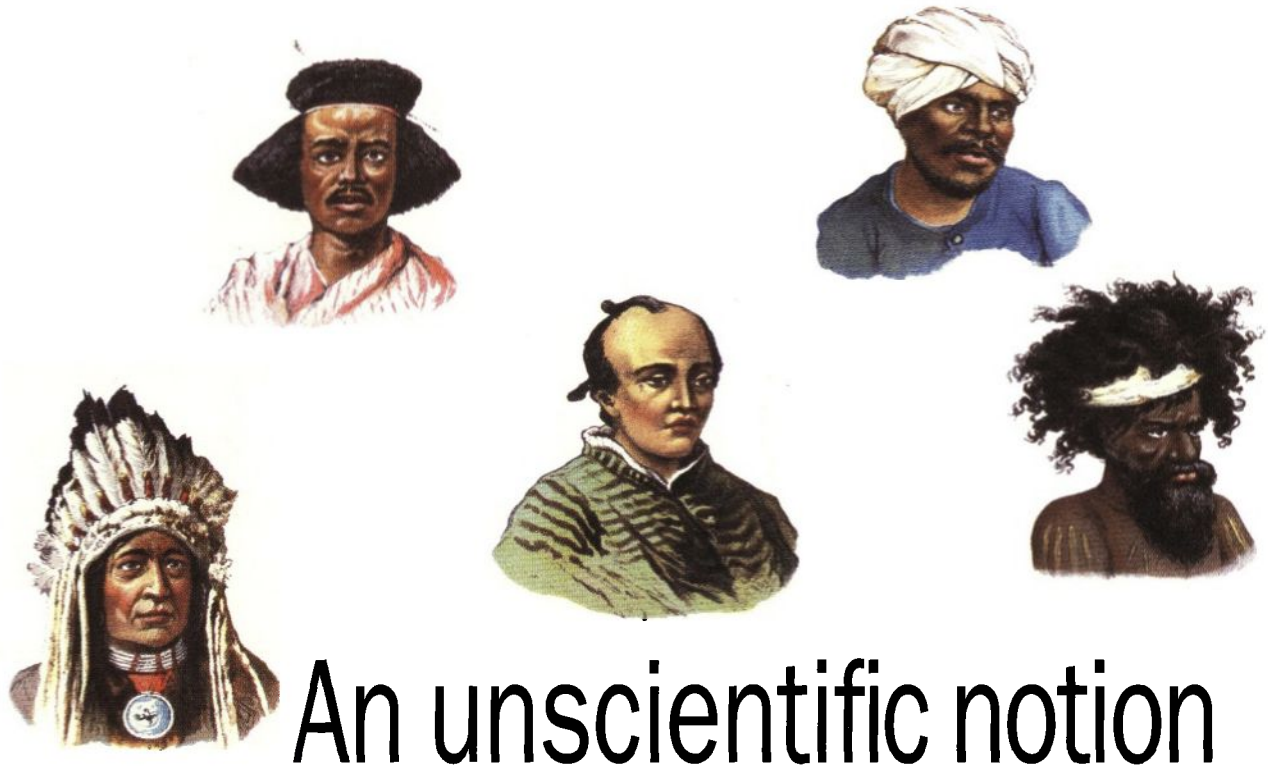


An unscientific notion

by Albert Jacquard

A geneticist explains why the concept of race is not valid for human populations

Racism is based on two assertions which are presented as facts. First, that the human species is made up of very distinct groups with different biological characteristics—in other words, "races"; and second, that these "races" can be ranked in hierarchies according to a scale of "values".

These two propositions were laid down as incontrovertible truths in a book that all French schoolchildren were given to read during the first half of this century, *Le Tour de la France par Deux Enfants* (A Tour of France by Two Children). When the two children visit Marseilles, they are surprised by the diversity of people of every colour they encounter there. This provides the author with an opportunity to teach them about the four human races—white, red, yellow and black—and to make the following observation: "The white race is the most perfect."

The author is careful to illustrate each race with a very decent-looking individual. He admits that each race is "perfect", but cannot help establishing a hierarchy of perfection, which is to the benefit of the white race.

The role of the scientist is to cast a rigorous, dispassionate eye on these two assertions and determine the degree to which they are fantasy or fact.

Defining race

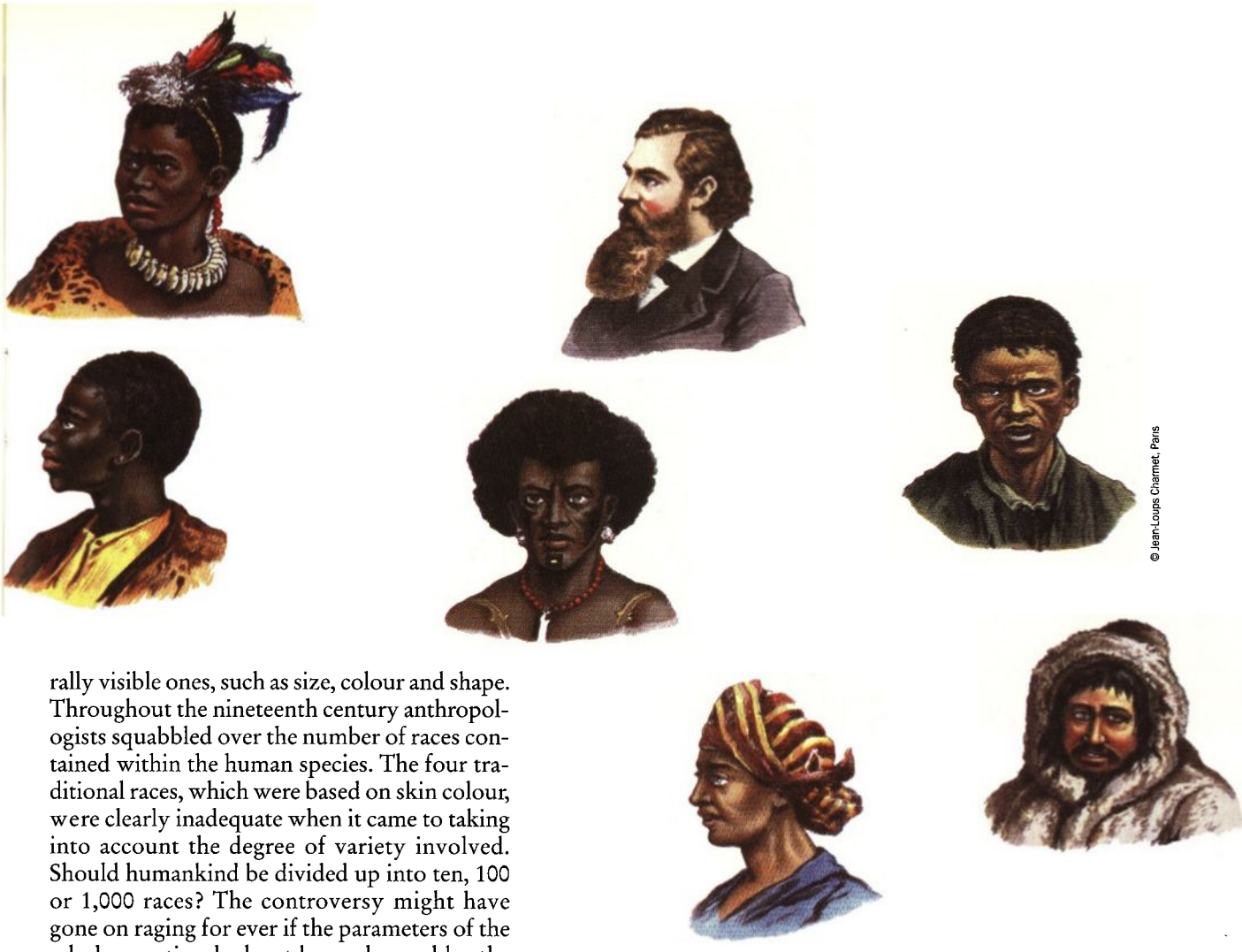
Human beings display a variety which is at once disturbing and marvellous. The task of science is to try to make sense of this chaotic situation by proposing a classification. The most celebrated classification is that of the Swedish naturalist Linnaeus. He conceived of a tree whose successive ramifications would mark the distinction between two "kingdoms" (animal and vegetable), then between several "classes" within each kingdom (such as mammals in the animal kingdom). Each class contained several "orders" (carnivores, for example), each order several "genera" (such as the genus *Canis*), and each genus several "species".

The dividing lines between this series of categories are often blurred and arbitrary, except in the case of species, where an objective criterion—interfecundity—makes it possible to determine whether two living creatures belong to the same species or not. In other words, individuals are deemed to belong to a single species if they are capable of reproducing and obtaining fertile offspring.

Usually, however, a species comprises such a large number of members that it is tempting, and scientifically logical, to pursue the classification process by defining relatively homogeneous groups within a given species. Criteria need to be defined before the dividing lines between these groups, which are generally described as "races" or "breeds" can be drawn.

It was not really until the eighteenth century that scientists tried to introduce some sort of order into the various ideas that were being peddled on the subject. They first needed to specify the characteristics to be taken into account when comparing individuals.

The characteristics concerned were natu-



© Jean-Loups Charmet, Paris

The human "races" depicted in illustrations from H. von Schubert's *Histoire Naturelle du Règne Animal* ("Natural History of the Animal Kingdom"), published in Germany in 1886.

rally visible ones, such as size, colour and shape. Throughout the nineteenth century anthropologists squabbled over the number of races contained within the human species. The four traditional races, which were based on skin colour, were clearly inadequate when it came to taking into account the degree of variety involved. Should humankind be divided up into ten, 100 or 1,000 races? The controversy might have gone on raging for ever if the parameters of the whole question had not been changed by the sudden appearance of a new discipline: genetics.

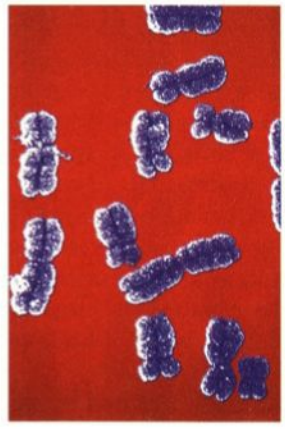
From 1900 on, the rediscovery of concepts devised by the Austrian monk Gregor Mendel (1822-1884) made scientists realize that appearances, or "phenotypes", were the manifestation of factors concealed in the nuclei of cells: genes. The combination of genes in any individual constitutes his or her "genotype". Thus, parents pass on to their children not a visible characteristic but half the genetic inheritance that governs their phenotype. They do not transmit what they are, but half the mass of information that allowed them to become what they are.

This meant that scientists had to go back to square one. They realized that the only comparison that makes it possible to apprehend the stable reality of a given population is one that focuses on what it passes on with each generation, in other words its genetic inheritance, and not on appearances, which are no more than a manifestation of it.

A false genetic trail

The first thing scientists did was try to track down "marker" genes whose presence would indicate that an individual belonged to a given race. If all members of a given population possessed a certain gene that was not found elsewhere, things would be straightforward. But no such genes have been found. Most genes are present in virtually all human populations. Some of them, probably as a result of recent mutations, are found only in certain populations, but even then they are rare and do not qualify as marker genes.

Chromosomes (below), where the genes are located, are the carriers of heredity.



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What distinguishes groups, then, is not the presence or absence of a gene, but the frequency of its occurrence. The B-gene of the blood system accounts for 25 per cent of the genetic inheritance of people who live in the Indian sub-continent, but that proportion decreases the farther west one goes: it is 15-20 per cent in Russia, 10-15 per cent in Central Europe, 5 per cent in France and Britain, and 0 per cent in the Basque Country.

Any definition of race can therefore result only from a logical process that allows for such differences in frequency. The starting point is a table which indicates, for all populations, the frequency of the greatest possible number of genes. Information now available to us means that this line of reasoning can be pursued with the help of a large mass of observations. As part of this approach, populations are regarded as belonging to one and the same "race" when most of their genes occur with similar frequency.

If the problem is to be approached with scientific rigour, a definition of genetic distance between different populations is required. Once all such distances between all populations have been calculated, it seems logical enough to assume that populations

UNESCO/Dominique Roger

***Meetings on the Phone*, a drawing by a young Chinese artist inspired by a UNESCO exhibition held in Beijing (1984).**

Breeders have not "improved" the equine race, they have improved the racing abilities of certain stock, at the cost of a spectacular decline in their biological potential.

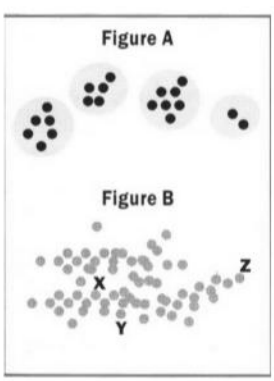
with a small distance between them belong to the same race, and those with a great distance between them belong to different races.

If these populations are represented as dots whose distance on paper is proportional to their genetic distance, the result in the case of dogs is shown in figure A (this page) where each cluster of dots may be regarded as a breed. On the other hand, if all human populations are represented, the result is not a series of very distinct clusters, but an indistinct haze of dots which cannot be put in groups without an arbitrary element coming into play (figure B). It is true that populations X and Y are genetically closer to each other than they are to population Z, but it is impossible to know where to draw the dividing line.

There is only one conclusion to be drawn: the concept of race is not valid for human populations. There are obvious differences between, for example, Lapps and Pygmies, but the transition from the former to the latter can be established via intermediate populations without any abrupt leaps.

The reason why the concept is not valid is well known. If a genetic inheritance is to acquire a certain originality, if it is to distinguish itself significantly from that of neighbouring groups, it has to remain in complete isolation for a very long period, or for roughly as many generations as there are individuals of reproductive age. That kind of isolation can exist in the case of animals, but is barely conceivable for a species as nomadic and as keenly curious as ours. Because we are capable of crossing mountain ranges and oceans, we have homogenized our genetic inheritances.

That observation can be illustrated by the following figures: the proportion of the total genetic diversity of the human species that can be put down to differences between the four traditional "races" is only 7-8 per cent. In the case of differences between nations within these races, it is also only 7-8 per cent, while the remaining 85 per cent is due to differences between groups belonging to the same nation. In other words, the essential differences are not between groups, but contained within them. The concept of race consequently has so little content that the word becomes meaningless and should be eradicated from our vocabulary.



From classification to hierarchy

However arbitrary it may be, some sort of classification is necessary. But, in Western culture at least, a classification is often automatically assumed to be the basis of a hierarchy: if two objects are not identical, they are regarded as not being "equal", in which case one is superior to the other. This automatic assumption originates in primary school, where we are taught that when two numbers are different one is bigger than the other.

What is true for numbers does not apply when several sets of measurements are used. In this case, the opposite of "equal" is not "superior" but "different". There can be a hierarchical rank only when objects are described by a single number. Thus one stone will be heavier, or denser, or more voluminous than another. It can be "superior" only if all the measurements are synthesized into one.

This is what some psychologists do when they want to compare people's intellectual potential. Some individuals can reason more quickly, others have a more extensive

ALBERT JACQUARD, a noted French geneticist, is a former head of the Genetics Department at France's National Institute of Demographic Studies (INED) in Paris. His works published in English include *In Praise of Difference: Genetics & Human Affairs* (1984) and *Genetics of Human Populations* (1978).

memory, and others again ask more relevant questions: they have different mental profiles. But the question "Who is the most intelligent" can only be answered if intelligence is gauged by a single measurement. Hence the success of the notorious "intelligence quotient" or IQ. In fact it measures nothing definite, but enables people to talk as though a hierarchy of intelligence existed.

Different human groups have varying potentials in every field. Whether innately or thanks to their culture, Pygmies are better equipped to solve the problems posed by living in an equatorial rain forest than Lapps, who know better how to cope with Arctic cold. The two populations are different; neither is superior to the other.

Unfortunately, our minds have been impregnated with a belief in that kind of hierarchy, which is reflected in turns of phrase that are so familiar to us that we take their meaning for granted. Thus we accept the idea that breeders have "improved" the equine race, whereas in fact all they have done is improve the racing abilities of certain stock, at the cost of a spectacular decline in their biological potential. Such "thoroughbreds" are in fact defective animals whose only achievement—one of little interest—is their ability to run fast over short distances.

The phrase I used about the "white race" being "the most perfect" is not even a fallacy: it is meaningless. But it is much harder to combat such assertions, which are meaningless, than it is to combat inaccuracies.

That is why the fight against racism may well go on for ever. It matters not that the geneticist can prove that the notion of race is without foundation or that the logician can demonstrate the absurdity of global hierarchies. The racist's attitude will not change one iota because when it comes down to it that attitude has nothing to do with biological reality or logic.

An expression of contempt

What racism expresses is essentially contempt—contempt for other people that is motivated not by their characteristics as such but by the fact that they belong to a group. Hence remarks such as "All . . . are . . .". What prompts such contempt is a lack of self-confidence, and its end-product is self-destruction.

What are human beings if not animals whose peculiar characteristic is to be able to construct themselves with the help of others? My "I" has emerged from the "yous" that have been addressed to me. "I" is made up of a web of links I weave with others.

But the weaving of those links cannot take place unless efforts are made and fears quelled. Other people are a source of both riches and risks. We have to confront them, that is to say tackle them head on and set intelligence against intelligence. The exchange will be fruitful only if a modicum of confidence exists—both self-confidence and confidence in others.

Racists are people who have no self-confidence. To disguise their fear, they puff themselves up and claim to be superior. Their contempt for others only serves to mask the panic their own inner emptiness inspires in them.

It is easy to prove that the notion of race in the case of human beings is virtually impossible to define, or that the concept of hierarchy cannot be used in a global way. But the most useful contribution science can make to the fight against racism lies elsewhere—in a greater awareness of what a human being is: a wonderful thing which each individual builds with the help of others. ■

The head of a fruit fly (*Drosophila melanogaster*), an insect widely used in genetic experiments.

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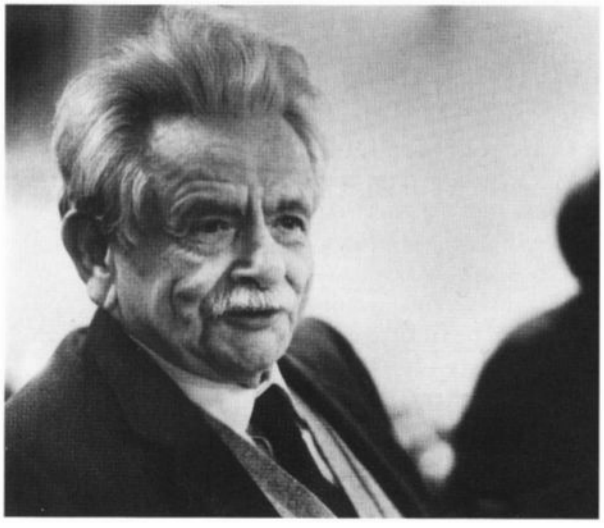
'Beneath the dark sun of racism...'

Elias Canetti

An imaginary interview by Edgar Reichmann



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Elias Canetti in 1983.

The novelist, dramatist and philosopher Elias Canetti (1905-1994), who wrote in German, was born at Ruschuk in Bulgaria. His parents were Sephardim, Jews of Spanish origin. In 1981, when he was awarded the Nobel Prize for Literature, the Swedish Academy noted that the characteristic features of his work are "a satirical bite in the observation of people's behaviour, a loathing of wars and devastation, bitterness at the thought of life's brevity". This imaginary interview has been composed by writer and journalist Edgar Reichmann using extracts from Canetti's work.

■ You left us on 14 August 1994. Where did you come into the world?

Elias Canetti: I was born at the beginning of the century at Ruschuk on the Bulgarian bank of the Danube. It was a marvellous city for a child. People of the most varied backgrounds lived there, and on any one day you could hear seven or eight languages. As well as the Bulgarians, there were Turks, Greeks, Jews, Albanians, Armenians, Gypsies and Romanians who came from the opposite side of the Danube. I lived with my parents and my two brothers in the neighbourhood of the Sephardim, the Spanish Jews, where my father had a successful business.

■ The looming threat of war led your family to emigrate to England. Your father died when you were living in Manchester in 1912.

E. C.: It was a terrible shock and in a way I never got over it. Someone who has been exposed to death too soon can never rid himself of it. It is a wound which becomes a kind of lung through which one breathes.

■ But you try to use remembrance as a kind of counterweight to death. . .

E. C.: One must visit the dead and localize them; otherwise they slip away with astonishing speed. As soon as you join them in their proper place, they return to life. In a flash, you remember everything you thought you had forgotten about them, you hear their words, stroke their hair and see your reflection in the brightness of their gaze. Once upon a time you might never have been quite sure of the colour of their eyes; now you recognize it immediately. Perhaps everything in them is more intense than when they were alive; perhaps the dead await complete self-fulfilment in the resurrection that one of those they have left behind will offer them.

■ Then you left England. . .

E. C.: In 1913 I left with my mother for Vienna, then we moved to Zurich and at the end of the Great War to Frankfurt, where I passed my school certificate. After learning English, I learned German, which became my second mother tongue and the language in which I wrote. I went back to Vienna to study chemistry. I was very excited by the intellectual ferment in the capital of the former Austro-Hungarian empire. It was there, in 1924, that I met Veza Taubner-Calderon, who became my wife

EDGAR REICHMANN
is a novelist and literary critic. His most recent novel, *Nous n'irons plus à Sils Maria*, was published earlier this year by Denoël, Paris.

ten years later. In 1928 I went for the first time to Berlin, where the artistic and cultural life was just as intense as it was in Vienna.

■ But intolerance was also rife at this time. The rise of totalitarianism had begun. This climate is reflected in your writing.

E. C.: My first play, *Hochzeit* ("The Wedding"), which I wrote in 1932, is not based on a model. It stands on its own. The way in which the characters express themselves reveals all kinds of turmoil and none of them grasps what the others want to say. The lack of communication is total. *Komödie der Eitelkeit* ("Comedy of Vanity") was written in 1934 beneath the dark sun of the tragedy that was unfolding in Germany. At the end of January Hitler came to power. From then on every event bore its load of anguish. In 1925 I began to try to find out the meaning of the concept of the crowd, how crowds functioned and, later, how power sprang from crowds. When the madness that was later to become all-consuming took control of the heart of Europe I felt the need to understand this even more strongly.

In 1925 I began to try to find out the meaning of the concept of the crowd, how crowds functioned and, later, how power sprang from crowds.

While books were being burned in Berlin, I was writing my metaphor-novel, originally entitled *Kant fängt Feuer* ("Kant takes fire") and later *Die Blendung* ("The Blinding"). In it I tried to expose the narcissistic verbiage of the mandarins who were incapable of foreseeing the horror that would soon destroy them or force them into exile. The book was rejected by Austrian publishers and first appeared in a Czech translation. After the war it was published in English as *Auto-da-fé*.

■ Then came your key work, *Crowds and Power*, essential reading for anyone who wants to understand the twentieth century.

E. C.: This book grew out of research that I had begun in adolescence and pursued more deeply

Fraternity **(1980), acrylic on canvas, by Tsing-Fang Chen.**

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I have always thought it was mad to insist that everyone should think in the same way, submit to the demands of a single faith and only regard the world from a single standpoint.

with the rise of Nazism. I concentrated on threats of war in the hope that I would be able to dissipate them.

After my mother's death in 1937, an event that prostrated me, I returned to Vienna. A year later I saw Hitler's troops enter the city. I stayed there a few more months in order to observe the horror at close quarters and to understand more about how the crowd functioned.

Men's feeling for their own increase has always been strong. The large numbers of the herds they hunted blended in their feelings with their own numbers which they wished to be large. They expressed this feeling in a specific state of communal excitement which I call the *rhythmic* or *throbbing* crowd.

Their excitement grows and reaches frenzy, until they are all doing the same thing. They all swing their arms to and fro, and shake their heads. In the end, there appears to be a single creature dancing, a creature with fifty heads and a hundred legs and arms, all acting in exactly the same way and with the same purpose. When their excitement is at its height, these people really feel as one, and nothing but physical exhaustion can stop them.

The fact that wars can last so long and may be carried on well after they have been lost arises from the deep urge of the crowd not to disintegrate; to remain a crowd. This feeling is sometimes so strong that people prefer to perish together with open eyes rather than acknowledge defeat and thus experience the disintegration of their own crowd.

■ What suddenly creates this uncanny cohesion?

E. C.: The phenomenon is so mysterious that it must be approached with a measure of caution. People decide that they are threatened with physical destruction and proclaim the fact publicly to the whole world. They say "I can be killed", and secretly add "because I myself I want to kill this or that man." The stress properly belongs on the second half of this sentence. It should run: "I want to kill this or that man, therefore I can be killed myself." But when it is a question of a war starting, of its eruption and the awakening of a bellicose spirit, the first version will be the only one openly admitted. Even if in fact the aggressor, each side will always attempt to prove that it is threatened.

■ What is the place of the individual survival instinct during these deadly confrontations?

E. C.: Death, which threatens every individual at every moment, must have been proclaimed as a collective sentence before people will oppose it actively. There are, as it were, *declared times of death,* times when it turns on a definite, arbitrarily selected group as a whole. It is "Death to the French" or "Death to the English." The enthusiasm with which people accept such declarations has its root in the individual's cowardice before death; no one likes facing it alone. The death that thousands approach together is entirely different. The worst that can happen to men in war is to perish together; and this spares them death as individuals, which is what they most fear.

■ Where does force come into all this? You make a distinction between force and power.

E. C.: The word "force" suggests something close and immediate in its effect, something more directly compelling than power. When force gives itself time in which to operate it becomes power. The distinction between force and power can be illustrated very simply by the relationship between cat and mouse. The cat uses force to catch the mouse, but while it is playing with its prey another factor is present. It lets it go, allows it to run about a little, and during this time the mouse is no longer subjected to force. But it is still within the power of the cat and can be caught again. The space which the cat dominates, the moments of hope it allows the mouse, while continuing however to watch it closely all the time and never relaxing its interest and intention to destroy it—all this can be called the actual body of power, or, more simply, power itself. Inherent in power, therefore, as opposed to force, is a certain extension in space and time.

■ What role does religion play?

E. C.: The distinction between force and power can be seen in another, quite different sphere. All those who believe in God believe that they are continuously in His power, but there are some

for whom this is not enough. They await some sharp intervention, some direct act of divine force, which they can recognize and feel as such. They live in expectation of God's commands; for them He has the cruder features of a ruler. His active will and their active and explicit submission become the core of their religion. Believers of this kind yearn for God's force. His power alone does not satisfy them; it is too distant and leaves them too much room for thought and personal initiative. The state of continuous expectation of command to which they surrender themselves for good and all, marks them deeply and has a momentous effect on their attitude to other people. It creates a soldierly type of believer, men to whom battle is the truest representation of life.

■ Religious literature seems to have been important to you.

E. C.: Just as people once prayed every day, I immersed myself in the sacred to find in it an explanation for the evils from which humanity suffers. I was not sure that I could learn from the arguments and scholarly dissertations of theologians, but I wanted to know everything they said. I knew that they could be refuted but I wanted them to be a part of me. I have always thought that it was mad to insist that everyone should think in the same way, submit to the demands of a single faith and only regard the world from a single standpoint. It is as if everyone should build alone the city in which he or she lives. That is why I made it my duty to approach all these truths, to keep them alive in my mind and to meditate on them. Essentially that was my reason for living. ■

Works by Elias Canetti available in English include:

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The Tongue Set Free: Remembrance of a European Childhood, translated by Joachim Neugroschel. Farrar, Strauss, Giroux, New York, 1983. André Deutsch, London, (1988).

The Torch in My Ear, translated by Joachim Neugroschel. Farrar, Strauss and Giroux, New York, 1982. André Deutsch, London, 1989.

The Conscience of Words, translated by Joachim Neugroschel. Farrar, Strauss, Giroux, New York, 1984. André Deutsch, London, 1986.

The Human Province. André Deutsch,1985

Auto-da-Fé, translated by C.V. Wedgwood. Jonathan Cape, London, 1982.

A crowd cheering Hitler.

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Race, history and culture

by Claude Lévi-Strauss

One of the world's leading anthropologists, Claude Lévi-Strauss twice set forth his ideas on racism for UNESCO, first in *Race and History* (1952) and later in *Race and Culture* (1971). On the following pages we publish long extracts from these two important studies.

Race and history[1]

The development of human life is not everywhere the same but rather takes form in an extraordinary diversity of societies and civilizations. This intellectual, aesthetic and sociological diversity is in no way the outcome of the biological differences, in certain observable features, between different groups of men; it is simply a parallel phenomenon in a different sphere. But, at the same time, we must note two important respects in which there is a sharp distinction. First, the order of magnitude is different. There are many more human cultures than human races, since the first are to be counted in thousands and the second in single units. . . . Second, in contrast to the diversity of races, where interest is confined to their historical origin or their distribution over the face of the world, the diversity of cultures gives rise to many problems; it may be wondered whether it is an advantage or a disadvantage for human kind. . . .

Last and most important, the nature of the diversity must be investigated even at the risk of allowing the racial prejudices whose biological foundation has so lately been destroyed to develop again on new grounds. . . . We cannot therefore claim to have formulated a convincing denial of the inequality of the human *races,* so long as we fail to consider the problem of the inequality—or diversity—of human *cultures,* which is in fact—however unjustifiably—closely associated with it in the public mind. . . .

Collaboration between cultures

. . . A culture's chance of uniting the complex body of inventions of all sorts which we describe as a civilization depends on the number and diversity of the other cultures with which it is working out, generally involuntarily, a common strategy. Number and diversity: a comparison of the Old World with the New on the eve of the latter's discovery [in 1492] provides a good illustration of the need for these two factors.

Europe at the beginning of the Renaissance was the meeting-place and melting-pot of the most diverse influences: the Greek, Roman, Germanic and Anglo-Saxon traditions combined with the influences of Arabia and China. Pre-Columbian America enjoyed no fewer cultural contacts, quantitatively speaking, as the various American cultures maintained relations with one another and the two Americas together represent a whole hemisphere. But, while the cultures which were cross-fertilizing each other in Europe had resulted from differentiation dating back several tens of thousands of years, those on the more recently occupied American continent had had less time to develop divergencies; the picture they offered was relatively homogeneous. Thus, although it would not be true to say that the cultural standard of Mexico or Peru was [in 1492] inferior to that of Europe at the time of the discovery (we have in fact seen that, in some respects, it was superior), the various aspects of culture were possibly less well organized in relation to each other. . . . Their organization, less flexible and diversified, probably explains their collapse before a handful of conquerors. And the underlying reason for this may be sought in the fact that the partners to the American cultural "coalition" were less dissimilar from one another than their counterparts in the Old World.

No society is therefore essentially and intrinsically cumulative. Cumulative history is not the prerogative of certain races or certain cultures, marking them off from the rest. It is the result of their *conduct* rather than their *nature.* It represents a certain "way of life" of cultures which depends on their capacity to "go along together". In this sense, it may be said that cumulative history is the type of history characteristic of grouped societies—social super-organisms—while stationary history (supposing it to exist) would be the distinguishing feature of an inferior form of social life, the isolated society.

The one real calamity, the one fatal flaw which can afflict a human group and prevent it from achieving fulfilment is to be alone.

We can thus see how clumsy and intellectually unsatisfactory the generally accepted efforts to defend the contributions of various human

A culture's chance of uniting the complex body of inventions of all sorts which we describe as a civilization depends on the number and diversity of the other cultures with which it is working out a common strategy.

UNESCO/Claude Babin

Claude Lévi-Strauss in 1971, lecturing on "Race and Culture" at UNESCO's Paris headquarters.

races and cultures to civilization often are. We list features, we sift questions of origin, we allot first places. However well-intentioned they may be, these efforts serve no purpose for, in three respects, they miss their aim.

In the first place, there can never be any certainty about a particular culture's credit for an invention or discovery.... In the second place, all cultural contributions can be divided into two groups. On the one hand we have isolated acquisitions or features, whose importance is evident but which are also somewhat limited.... At the other end of the scale (with a whole series of intermediates, of course), there are systematized contributions, representing the peculiar form in which each society has chosen to express and satisfy the generality of human aspirations. There is no denying the originality and particularity of these patterns, but, as they all represent the exclusive choice of a single group, it is difficult to see how one civilization can hope to benefit from the way of life of another, unless it is prepared to renounce its own individuality. Attempted compromises are, in fact, likely to produce only two

CLAUDE LÉVI-STRAUSS
is a French social anthropologist and university teacher whose work has exerted considerable influence on the development of the contemporary social sciences. His works published in English include: *The Savage Mind* (1968), *Elementary Structures of Kinship* (1969), *Structural Anthropology I* and *II* (1974 and 1981), and *Myth and Meaning* (1987).

The one flaw which can afflict a human group and prevent it from achieving fulfilment is to be alone.

results: either the disorganization and collapse of the pattern of one of the groups; or a new combination, which then, however, represents the emergence of a third pattern, and cannot be assimilated to either of the others. The question with which we are concerned, indeed, is not to discover whether or not a society can derive benefit from the way of life of its neighbours, but whether, and if so to what extent, it can succeed in understanding or even in knowing them....

World civilization

Finally, wherever a contribution is made, there must be a recipient. But, while there are in fact real cultures which can be localized in time and space, and which may be said to have "contributed" and to be continuing their contributions, what can this "world civilization" be, which is supposed to be the recipient of all these contributions? It is not a civilization distinct from all the others, and yet real in the same sense that they are.... [It is] an abstract conception, to which we attribute a moral or logical significance—moral, if we are thinking of an aim to be pursued by existing societies; logical, if we are using the one term to cover the common features which analysis may reveal in the different cultures. In both cases, we must not shut our eyes to the fact that the concept of world civilization is very sketchy and imperfect, and that its intellectual and emotional content is tenuous. To attempt to assess cultural contributions with all the weight of countless centuries behind them ... by reference to the sole yardstick of a world civilization which is still a hollow shell, would be greatly to impoverish them, draining away their life-blood and leaving nothing but the bare bones behind.

... The true contribution of a culture consists, not in the list of inventions which it has personally produced, but in its difference from others. The sense of gratitude and respect which each single member of a given culture can and should feel towards all others can only be based on the conviction that the other cultures differ from his own in countless ways....

We have taken the notion of world civilization as a sort of limiting concept or as an epitome of a highly complex process. If our arguments are valid, there is not, and never can be, a world civilization in the absolute sense in which that term is often used, since civilization implies, and indeed consists in, the coexistence of cultures exhibiting the maximum possible diversities. A world civilization could, in fact, represent no more than a worldwide coalition of cultures, each of which would preserve its own originality.

Race and culture[2]

[In 1952,] in a booklet written for UNESCO, I suggested the concept of "coalition" to explain why isolated cultures could not hope to create single-handed the conditions necessary for a truly cumulative history. To achieve this, I said, different cultures must, voluntarily or involuntarily, combine their respective stakes in the great game of history, to increase their chances of making that long run of winning plays by which history progresses. Geneticists are at present [1971] putting forward very similar views on biological evolution, in pointing out that a genome is in reality a system within which certain genes function as regulators and others act in concert on a single characteristic (or the contrary, if several characteristics depend on a single gene). What is true of the individual genome is also true of a population, in which the combination of a number of genetic inheritances—in which until recently a "racial type" would have been identified—must always be such as to allow the establishment of an optimum equilibrium and improve the group's chances of survival. In this sense, it might be said that in the history of populations, genetic recombination plays a part comparable to that played by cultural recombination in the evolution of the ways of life, techniques, knowledge and beliefs by which different societies are distinguished. . . .

The nature-culture debate

[But] one fact cannot be too strongly emphasized: while selection makes it possible for living species to adapt to their natural environment or to resist its changes more effectively, in the case of man this environment ceases to be natural in any real sense. Its characteristics arise from technical, economic, social and psychological conditions which, through the operation of culture, create a particular environment for each human group. We can go a step further, and consider whether the relation between organic evolution and cultural evolution is not merely analogical, but also complementary. . . .

In the dawn of humanity, biological evolution perhaps selected such pre-cultural traits as upright posture, manual dexterity, sociability, the capacity to think in symbols, speech and the ability to communicate. But once a culture existed, these traits were consolidated and propagated by cultural factors. When cultures became specialized, it was again cultural factors which consolidated and encouraged other traits, such as resistance to heat or cold for those societies which had willy-nilly to adapt themselves to extreme climatic conditions; aggressive or contemplative dispositions, technical ingenuity etc. None of these traits, as perceived at a cultural level, can clearly be attributed to a genetic basis, although we cannot exclude the possibility that such a connexion—even if partial, remote and indirect—may sometimes exist. In that case, it would be true to say that every culture selects genetic aptitudes which then, by reflex action, influence those cultures by which they were at first stimulated.

An ideological cover

By pushing back the earliest beginnings of humanity to an ever more remote past—according to recent estimates, some millions of years ago—physical anthropology has undermined one of the principal bases for racialist theory, since the number of unknowable factors concerned thus increases much more rapidly than the number of landmarks available to stake out the paths followed by our earliest ancestors in the course of their evolution.

Geneticists delivered even more decisive blows to these theories when they replaced the concept of type by that of population and the concept of race by that of the genetic stock, and again when they demonstrated that there is a gulf between hereditary differences attributable to a single gene—which are of little significance from the point of view of race, since they probably always have an adaptive value—and those attributable to the combined action of several, which makes it virtually impossible to determine them. . . .

Only in the last ten years have we begun to understand that we were discussing the problem of the relation between organic and cultural evolution in terms which Auguste Comte would have described as metaphysical. Human evolution is not a by-product of biological evolution, but neither is it completely distinct from it. A synthesis of these two traditional points of view is now possible, provided that biologists are not content with answers not based on fact, or with dogmatic explanations, and realize both the help they can give each other and their respective limitations.

The unsatisfactory nature of the traditional solutions to the problem perhaps explains why the ideological struggle against racialism has proved so ineffective on a practical level. There is nothing to indicate that racial prejudice is declining and plenty of evidence to suggest that, after brief periods of localized quiescence, it is reappearing everywhere with increased intensity. It is for this reason that UNESCO feels called upon

A world civilization could represent no more than a worldwide coalition of cultures, each of which would preserve its own originality.

All true creation implies a certain deafness to outside values, even to the extent of rejecting them.

to renew from time to time a battle whose outcome appears uncertain, to say the least.

But can we be so sure that the racial form taken by intolerance results primarily from false beliefs held by this or that people about the dependence of culture on organic evolution? Are these ideas not simply an ideological cover for a more real form of antagonism, based on the will to subjugate and on relations of power? This was certainly the case in the past, but, even supposing that these relations of power become less marked, will not racial differentiation continue to serve as a pretext for the growing difficulty of living together, unconsciously felt by mankind, which is undergoing a demographic explosion and which . . . is beginning to hate itself, warned by a mysterious prescience that its numbers are becoming too great for all its members to enjoy freely open space and pure, non-polluted air?

Racial prejudice is at its most intense when it concerns human groups confined to a territory so cramped and a share of natural resources so meagre that these peoples lack dignity in their own eyes as well as in those of their more powerful neighbours. But does not humanity today, on the whole, tend to expropriate itself and, on a planet that has grown too small, reconstitute, to its own cost, a situation comparable to that inflicted by some of its representatives on the unfortunate American or Oceanic tribes? Finally, what would happen to the ideological struggle against racial prejudice, if it were shown to be universally true—as some experiments conducted by psychologists suggest—that if subjects of any origin whatever are divided into groups, which are placed in a competitive situation, each group will develop feelings of bias and injustice towards its rivals?

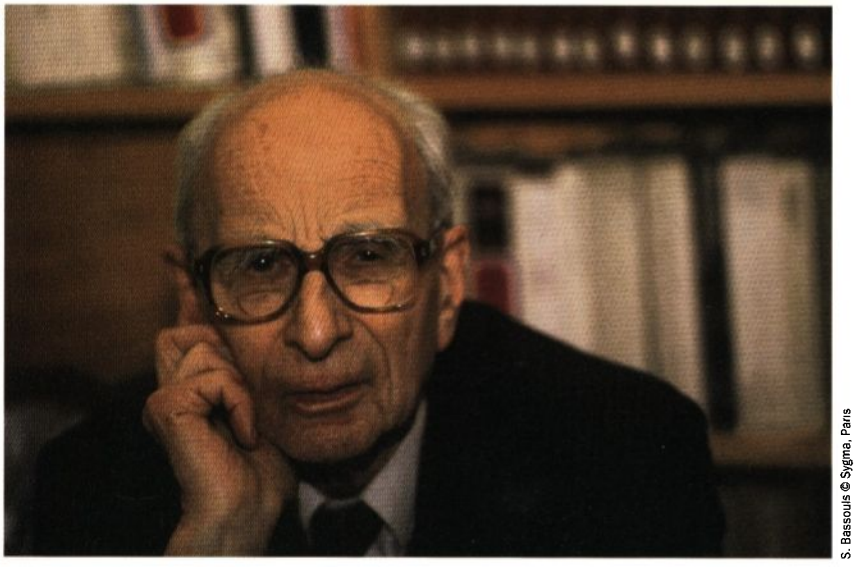
Minority groups appearing in various parts of the world today, such as the hippies, are not distinguished from the bulk of the population by race, but only by their way of life, morality, hair style and dress; are the feelings of repugnance and sometimes hostility they inspire in most of their fellows substantially different from racial hatred? Would we therefore be making genuine progress if we confined ourselves to dissipating the particular prejudices on which racial hatred—in the strict sense of the term—can be said to be based?

The mirage of universal entente

In any case, the contribution ethnologists can make to the solution of the race problem would be derisory; nor is it certain that psychologists and educators could do any better, so strong is the evidence—as we see from the evidence of the so-called primitive peoples—that mutual tolerance presupposes two conditions which in contemporary society are further than ever from being realized: one is relative equality; the other is adequate physical separation.

. . . No doubt we cherish the hope that one day equality and fraternity will reign among men without impairing their diversity. But if humanity is not to resign itself to becoming a sterile consumer of the values it created in the past and of those alone . . . , it will have to relearn the fact that all true creation implies a certain deafness to outside values, even to the extent of rejecting or denying them. For one individual cannot at the same time merge into the spirit of another, identify with another and still maintain his own identity. Integral communication with another, if fully realized, sooner or later dooms the creative originality of both. The great creative epochs in history were those in which communication had become adequate for distant individuals to stimulate each other, but not frequent or rapid enough for those obstacles, indispensable between individuals as they are between groups, to be reduced to the point at which diversity becomes levelled out and nullified by excessively facile interchange.

. . . Convinced that cultural and organic evolution are inextricably linked, [biologists and ethnologists] know, of course, that a return to the past is impossible, but they know, too, that the course humanity is at present following is building up tensions to such a degree that racial hatred is a mere foretaste of the greater intolerance that may hold sway tomorrow, without even the pretext of ethnic differences. To forestall the dangers threatening us today and those, still more formidable, that we shall have to face tomorrow, we must accept the fact that their causes are much deeper than mere ignorance or prejudice: we can only hope for a change in the course of history, which is even more difficult to bring about than progress in the march of ideas. ■



S. Bassouls © Sygma, Paris

Claude Lévi-Strauss in 1988.

1. Extract from *Race and History,* first published in *The Race Question in Modern Science,* Paris, UNESCO, 1952.
2. Extract from "Race and Culture", published in UNESCO's *International Social Science Journal,* Vol. XXIII, No. 4, 1971.

A plea for tolerance

Article 1
Meaning of tolerance

1.1 Tolerance is respect, acceptance and appreciation of the rich diversity of our world's cultures, our forms of expression and ways of being human. It is fostered by knowledge, openness, communication, and freedom of thought, conscience and belief. Tolerance is harmony in difference. It is not only a moral duty, it is also a political and legal requirement. Tolerance, the virtue that makes peace possible, contributes to the replacement of the culture of war by a culture of peace.

1.2 Tolerance is not concession, condescension or indulgence. Tolerance is, above all, an active attitude prompted by recognition of the universal human rights and fundamental freedoms of others. In no circumstance can it be used to justify infringements of these fundamental values. Tolerance is to be exercised by individuals, groups and States.

1.3 Tolerance is the responsibility that upholds human rights, pluralism (including cultural pluralism), democracy and the rule of law. It involves the rejection of dogmatism and absolutism and affirms the standards set out in international human rights instruments.

1.4 Consistent with respect for human rights, the practice of tolerance does not mean toleration of social injustice or the abandonment or weakening of one's convictions. It means that one is free to adhere to one's own convictions and accepts that others adhere to theirs. It means accepting the fact that human beings, naturally diverse in their appearance, situation, speech, behaviour and values, have the right to live in peace and to be as they are. It also means that one's views are not to be imposed on others.

(...)

Article 4
Education

4.1 Education is the most effective means of preventing intolerance. The first step in tolerance education is to teach people what their shared rights and freedoms are, so that they may be respected, and to promote the will to protect those of others.

4.2 Education for tolerance should be considered an urgent imperative; that is why it is necessary to promote systematic and rational tolerance teaching methods that will address the cultural, social, economic, political and religious sources of intolerance—major roots of violence and exclusion. Education policies and programmes should contribute to development of understanding, solidarity and tolerance among individuals as well as among ethnic, social, cultural, religious and linguistic groups and nations.

4.3 Education for tolerance should aim at countering influences that lead to fear and exclusion of others, and should help young people to develop capacities for independent judgement, critical thinking and ethical reasoning.

4.4 We pledge to support and implement programmes of social science research and education for tolerance, human rights and non-violence. This means devoting special attention to improving teacher training, curricula, the content of textbooks and lessons, and other educational materials including new educational technologies, with a view to educating caring and responsible citizens open to other cultures, able to appreciate the value of freedom, respectful of human dignity and differences, and able to prevent conflicts or resolve them by non-violent means.

Extract from the Declaration of Principles on Tolerance proclaimed and signed by the General Conference of UNESCO on 16 November 1995

The full text of these Declarations may be obtained from:

UNESCO, Office of Public Information, 7 Place de Fontenoy, 75352 Paris 07 SP France.
Tel.: (33-1) 45 68 17 43
Fax: (33-1) 44 49 06 92

Race and racial prejudice

Article 1

1. All human beings belong to a single species and are descended from a common stock. They are born equal in dignity and rights and all form an integral part of humanity.
2. All individuals and groups have the right to be different, to consider themselves as different and to be regarded as such. However, the diversity of life styles and the right to be different may not, in any circumstances, serve as a pretext for racial prejudice; they may not justify either in law or in fact any discriminatory practice whatsoever, nor provide a ground for the policy of apartheid, which is the extreme form of racism.....
4. All peoples of the world possess equal faculties for attaining the highest level in intellectual, technical, social, economic, cultural and political development.
5. The differences between the achievements of the different peoples are entirely attributable to geographical, historical, political, economic, social and cultural factors. Such differences can in no case serve as a pretext for any rank-ordered classification of nations or peoples.

Article 2

1. Any theory which involves the claim that racial or ethnic groups are inherently superior or inferior, thus implying that some would be entitled to dominate or eliminate others, presumed to be inferior, or which bases value judgements on racial differentiation, has no scientific foundation and is contrary to the moral and ethical principles of humanity.
2. Racism includes racist ideologies, prejudiced attitudes, discriminatory behaviour, structural arrangements and institutionalized practices resulting in racial inequality as well as the fallacious notion that discriminatory relations between groups are morally and scientifically justifiable; it is reflected in discriminatory provisions in legislation or regulations and discriminatory practices as well as in anti-social beliefs and acts; it hinders the development of its victims, perverts those who practice it, divides nations internally, impedes international co-operation and gives rise to political tensions between peoples; it is contrary to the fundamental principles of international law and, consequently, seriously disturbs international peace and security.
3. Racial prejudice, historically linked with inequalities in power, reinforced by economic and social differences between individuals and groups, and still seeking today to justify such inequalities, is totally without justification.
(...)

Article 4

1. Any restriction on the complete self-fulfilment of human beings and free communication between them which is based on racial or ethnic considerations is contrary to the principle of equality in dignity and rights; it cannot be admitted.
2. One of the most serious violations of this principle is represented by apartheid, which, like genocide, is a crime against humanity, and gravely disturbs international peace and security.
3. Other policies and practices of racial segregation and discrimination constitute crimes against the conscience and dignity of mankind and may lead to political tensions and gravely endanger international peace and security.

Extract from the Declaration on race and racial prejudice adopted by the General Conference of UNESCO on 27 November 1978

Some UNESCO publications on race

Human Rights: Questions and Answers
by Leah Levin. Illustrated by Plantu. Paris, UNESCO, 1990 (2nd rev. ed.) 79 pp.

Race, Class and the Apartheid State
by Harold Wolpe. London, James Curry/OAU Inter-African Cultural Fund/UNESCO. 1989 (2nd impr.) 118 pp.

Violations of Human Rights: Possible Rights of Recourse and Forms of Resistance
Paris, UNESCO, 1984, 236 pp.

The International Dimensions of Human Rights
General editor: Karel Vasak, revised and edited by Philip Alston. Paris, Greenwood Press/UNESCO, 1982. 2 vols., 755 pp.

UNESCO/Gil Jacques, Montréal

COMMENTARY BY FEDERICO MAYOR

THE RIGHTS OF FUTURE GENERATIONS

The extent to which future generations will be able to enjoy their rights will depend on the moral and intellectual choices made by present generations—on whether we do our duty to our children and our children's children.

Time to act

For the first time in the history of humanity, awareness of the global impact of our actions—starting with the effects our population numbers have on the environment—compels us to do all we can to avoid causing irreparable environmental damage and preventing future generations from exercising all or some of their rights. Because of this risk we must act before it is too late and correct trends which might otherwise lead to incalculable problems. We must observe, anticipate, and prevent. Prevention is not just an option. It is an unavoidable obligation, an ethical imperative. We must act in good time. We must look ahead and try to see the shape of our common destiny. We must never lapse into fatalism. UNESCO's Constitution has entrusted us with a unique task: to be the conscience of humanity. This task includes consideration for those who will follow in our footsteps, those who have yet to be born.

The survivors of wars think with great intensity of those who will come after them, because they want to spare future generations the horrors they have known themselves. Death, which they have seen at close quarters, has at least given them an opportunity to discover the full meaning of life. Not life lived selfishly and in isolation, but community life in all its aspects, including that of continuity.

It is not surprising, therefore, that the opening words of the Charter of the United Nations should refer to the fate of succeeding generations. What is surprising, however, is that there has been no subsequent attempt to look more deeply into the idea of "future generations", especially from the standpoint of the rights they should enjoy. It is true that the World Heritage Convention adopted by UNESCO's General Conference in 1972 was inspired by a determination to safeguard the heritage so that it could be passed on intact to future generations—those very words appear in its text. Twenty years later, the Earth Summit adopted the Rio Declaration, which strengthens and reaffirms the idea of solidarity between the generations.

Solidarity between the generations

But we must go further. We must recognize and guarantee the rights of future generations. Probably the most striking example of a possible threat to those rights is that of pollution and its attendant hazards, especially in relation to choices concerning nuclear energy—an issue which is rarely as simple and cut-and-dried as it is presented to the general public. The political, economic or financial interests that favour particular solutions must never be allowed to overshadow the interests of future generations. In cases where the foreseeable consequences of investment will extend far beyond the present, it is worth considering whether an impact study should not be made of the consequences of the various options on offer over a fifty-year period, the span of two generations.

In fact there is little doubt that several of the rights of future generations are affected: the right to life and to the conservation of the human genome, the right to development and to individual and collective fulfilment, and the right to an ecologically balanced environment. These are indeed human rights, that is, universal and universally recognized values which are a legitimate cause of concern for the international community as a whole. This is a far cry from rights regarded merely as legally protected vested interests.

The duties of the present

The fact remains that the rights of future generations belong to a new type in comparison with the rights enshrined in the Universal Declaration of Human Rights of 1948. First of all because, by definition, those entitled to them do not yet exist—although since Roman times the law has admitted cases in which the rights of persons yet unborn are acknowledged. We must now extend that possibility, without, however, ending up with a precise legal status for the unborn child or embryo, issues which are now under discussion in many countries.

In reality, these new-style rights are only rights because today's generations have obligations whose counterparts are the rights of future generations. In other words there is a dialectical relationship between rights and duties which should make us aware of the inherent unity of the human race, in space and over time.

Which rights of future generations should be recognized? It has often been correctly pointed out that all the rights set forth in the thirty articles of the Universal Declaration can be condensed into a single one: the right to live in dignity, which is indeed the sum of civil, political, economic, social and cultural rights. The same synthesis could probably be applied to the rights of future generations, with the added dimension of the continuity of human life, i.e., guaranteeing the right to live in dignity on an earth that is habitable. This brings us back to the preoccupation with the environment which will probably, with hindsight, be seen as the major qualitative change that has occurred in the twentieth century.

However, it is preferable, if only for educational and legal reasons, to consider the rights of future generations on an individual basis. First of all, the exemption of persons belonging to future generations from all individual responsibility for the crimes of earlier generations should be regarded as a human right. I have long believed, to put it bluntly, that history kills and that accordingly we are in duty bound to "disarm history", since it is axiomatic that future generations cannot continue to shoulder the burden of the crimes, actual or alleged, of their forebears. Make no mistake: this has nothing to do with the moral responsibility which each person, each community and each nation must assume in complete freedom, but concerns legal responsibility, with its attendant criminal and civil consequences.

The right to live in peace

The second right which is of great importance at the present time is that which has been formuated as "right to peace and right not to be a victim of war". In this context I think particularly of the pioneering work carried out by the recently founded Tricontinental Institute for Parliamentary Democracy and Human Rights and by Captain Cousteau and his associates. We know that war does not stop when the guns fall silent but continues long after, to the detriment of those who were not responsible for it. The acknowledgment of this new right for future generations is part of the culture of peace for which UNESCO is working.

If it is true, as the French philosopher Henri Bergson once said, that "the idea of the future is more fertile than the future itself", we must start to work on this idea, extract all we can from it, and ensure that it flourishes. The rights of future generations are the duties of today's generations. Their lives tomorrow depend on the concern we show for them today. ■

R. G. Everts © Rapho, Paris

Salamanca first appears in history as Helmantiké, in an account of its fall to Hannibal's Carthaginian army in 220 B.C. The stone bull on the city's Roman bridge, which also features on its coat of arms, is a relic of that period and was probably the legacy of the Vettones and the Vaccaei, who put their herds to graze on the banks of the River Tormes. The bridge itself is thought to have been built by Trajan, but only the fifteen arches on the city side date from the 1st century A.D. The others are the result of extensive rebuilding in the sixteenth and seventeenth centuries after the bridge had been damaged by flood waters.

Not much has survived from the period between the collapse of Roman rule in the third century and the repopulation of the city in the eleventh, apart from sections of Roman and medieval ramparts, the bridge over the Tormes and its bull.

Three people were responsible for Salamanca's prosperity in the Middle Ages. The first, Bernardo del Carpio, was a legendary hero who continued to crop up in Spanish literature long afterwards. The second, Raymond of Burgundy, helped the city to expand considerably at the end of the eleventh century when it was repopulated by Castilians, Galicians, Mozarabs, Jews and Franks, and given the well-defined legal and territorial structures of the feudal system. Bishop Geronimo, El Cid's chaplain, was responsible for the ecclesiastical organization of the city and the start of work on building the cathedral.

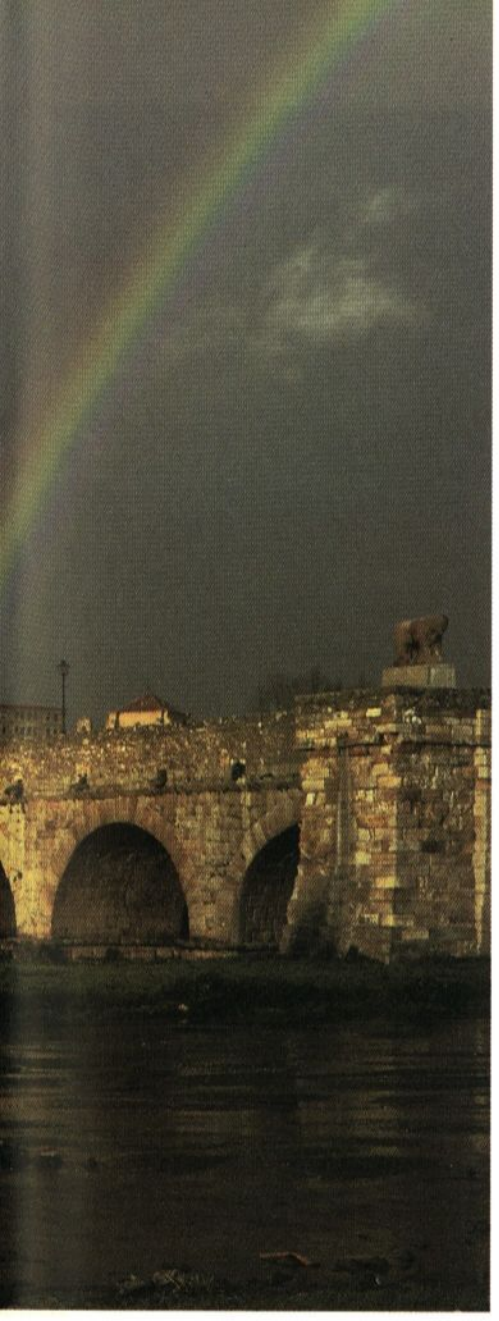
Of the many literary figures associated with Salamanca, two became household names: Lazarillo de Tormes and La Celestina. *The Life of Lazarillo de Tormes*

JOSÉ M. G. HOLGUERA
is a Spanish writer and translator who was born in Salamanca and has taught at the Universities of Stirling (Scotland), Dublin (Ireland) and Rouen (France).

The golden stones of Salamanca

by José M. G. Holguera

Famed for its university and its cultural life, the Spanish city of Salamanca has an outstanding architectural heritage. Its historic centre was registered on UNESCO's World Heritage List in 1988.



Salamanca's Roman bridge is dominated by the Old Cathedral (12th century) and the New Cathedral (16th-18th centuries).

© Robert Ferck/Cosmos, Paris

The Patio de las Escuelas. In the centre of this little square stands a statue of the Spanish writer Fray Luis de León (1527-1591). In left background, the main entrance to the University. Right, the Estudio hospital.

is an anonymous first-person account, published in 1554, of the adventures of a maverick hero born, as his name suggests, on the banks of the River Tormes, who does his best to get through life without overburdening himself with ethical considerations or lofty sentiments. This story marked the birth of Spanish picaresque literature and is one of the sources of the modern novel. As for *La Celestina*, or *La Tragicomedia de Calisto y Melibea* (1499), it was probably written in Salamanca by Fernando de Rojas. With its pair of tragic lovers and the unforgettable character of La Celestina, an aged bawd-cum-witch, the play is one of the most important forerunners of modern theatre.

A third figure who did much to bring fame to Salamanca is that of the student. In the Spain of the Golden Century, the student figure who features in so many stories and plays always hails from Salamanca. He is generally quarrelsome and ne'er-do-well (the meaning of the word *pícaro*), but above all bursting with youthful vitality. He enjoyed an eventful literary career which lasted until José de Espronceda y Delgado's *The Student of Salamanca* in the nineteenth century. Even today, youthfulness is the hallmark of social and cultural life in Salamanca, where most of the population is aged under thirty.

THE OLD CATHEDRAL

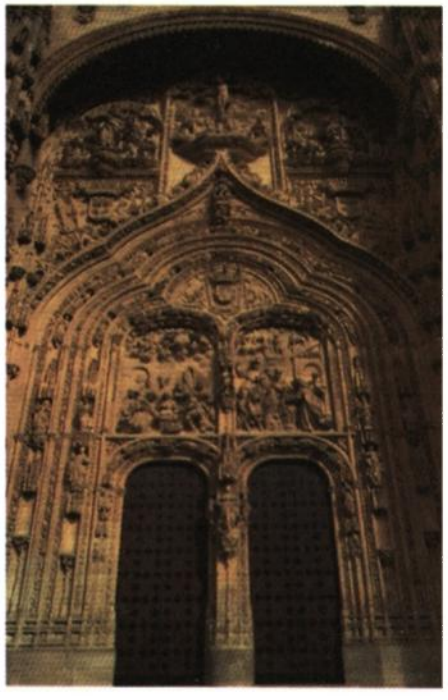
The courtyard known as the Patio Chico affords the finest view of the cathedral of Santa María de la Sede (known as the Old Cathedral, to distinguish it from the New Cathedral built next to it three centuries later). It was erected between the beginning of the twelfth century and the end of the thirteenth, which explains why the original fortress-like building gradually became lighter, in both senses of the word, under Gothic influence.

The monumental lantern-tower known as the Torre del Gallo (the Cock's Tower), which tops the building, even has an oriental quality. Its lower section, which is

Jean-Luc Barde © Scope, Paris

Plaza Mayor, a baroque square begun in 1729 to plans by Alberto de Churriguera and completed in 1755 by Andrés García Quiñones. The Town Hall is at centre.

The New Cathedral's Door of the Nativity.



Jim Zuckerman © Cosmos, Paris

flanked by four turrets, rises to a Byzantine-style cupola. This almost improvised arrangement resulted from changes made to the original plan by master architect Pedro Pérez with the aim of covering the naves. The elegant solution he devised is a model of architectural creativity.

The Old Cathedral is remarkable not only for its wealth of architectural interest, the abundance of its decoration (capitals, paintings and sculptures) and the inventive fantasy of the vault in the Talavera Chapel (eight semicircular arches, arranged in parallel pairs, all of them different, which do not meet at the keystone), but also because it used to house the Ecclesiastical School, first mentioned in 1130, which later became the University. It was there, in the Santa Bárbara Chapel, that examinations and degree ceremonies were held for centuries.

THE UNIVERSITY

Patio de Escuelas, a small square overlooked by the monumental façade of the University, is a masterpiece dating from the early seventeenth century. It is lined with the buildings that form the heart of the old University complex: the Escuelas Mayores and Menores and the Estudio Hospital (which now houses the Vice-Chancellery). It was in 1218, at the behest of Alfonso IX, that the Ecclesiastical School broadened its curriculum to include general studies. From 1255 on, the University of Salamanca ranked among the most famous centres of learning in Christendom, alongside Oxford, Paris and Bologna.

The University's golden age came in the fifteenth and sixteenth centuries. The Escuelas Mayores were built between 1415 and 1433. The foundation stone of the hospital was laid in 1413. The portal of the Escuelas Menores (an establishment providing secondary education) was built in 1533. The courtyard onto which these buildings give includes rows of multifoil Gothic arches—a sophisticated combination of curves and countercurves which rank alongside other hidden treasures to be found in Salamanca's many inner courtyards (in the Casa de las Conchas, the Palacio de Fonseca, and the University's upper cloister).

The Estudio Hospital was built in the Gothic style on the spot where Raymond of Burgundy's palace once stood, and which was traditionally thought to be the site of the ancient Roman pretorium.

The Plateresque decoration of the friezes borrowed many stylistic elements from the Italian Renaissance: fauns (one of whom is shown engaged in amorous activity), cartouches, foliated scrolls and grotesque masks.

The University's early-sixteenth-century portal, which is also in the Plateresque style, seems to thrust forward its convoluted decoration of grotesques, coats of arms and medallions almost defiantly. It contains in code an overview of Renaissance civilization with, in its lower section, medallion portraits of the Catholic kings and, above, some admirable representations of Hercules and Venus.

The cloister of the kings (16th century) in the Convent of San Esteban.

R. Mattes © Explorer, Paris

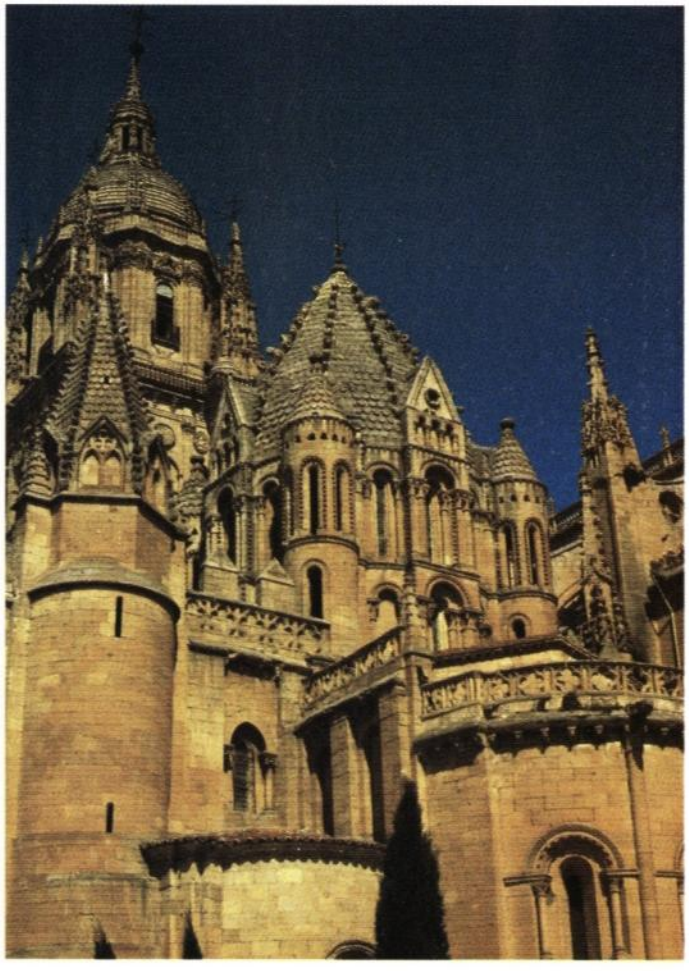
What confers unity on these buildings, as it does on all those in Salamanca, is the material of which they are built: a reddish-gold stone from the Villamayor region. The statue of the theologian, poet and philosopher Fray Luis de Léon, which stands majestically in the middle of Patio de las Escuelas seems silently to approve the lines of the poet Miguel de Unamuno: "The stones where your soul is enclosed/ Are the colour of ripe ears of corn." The monumental portal leads to cloisters, around which are arranged the lecture halls and the ancient University Library (founded in 1254, it is the oldest university library in Europe). The room where Fray Luis de León used to teach looks exactly as it did on that day in 1577 when, after spending many months in the Inquisitors' jails, he greeted his students with the celebrated "As I was saying the other day. . . ," thus stylishly drawing a veil over the persecution he had suffered. With its twin rows of benches consisting simply of squared-off wooden beams facing a professorial chair that is doomed to remain empty for ever, this stark room has a strangely magnetic feel about it.

Façade of the Casa de las Conchas, or House of Shells (early 16th century).

Jacques Valat © Agence Top, Paris

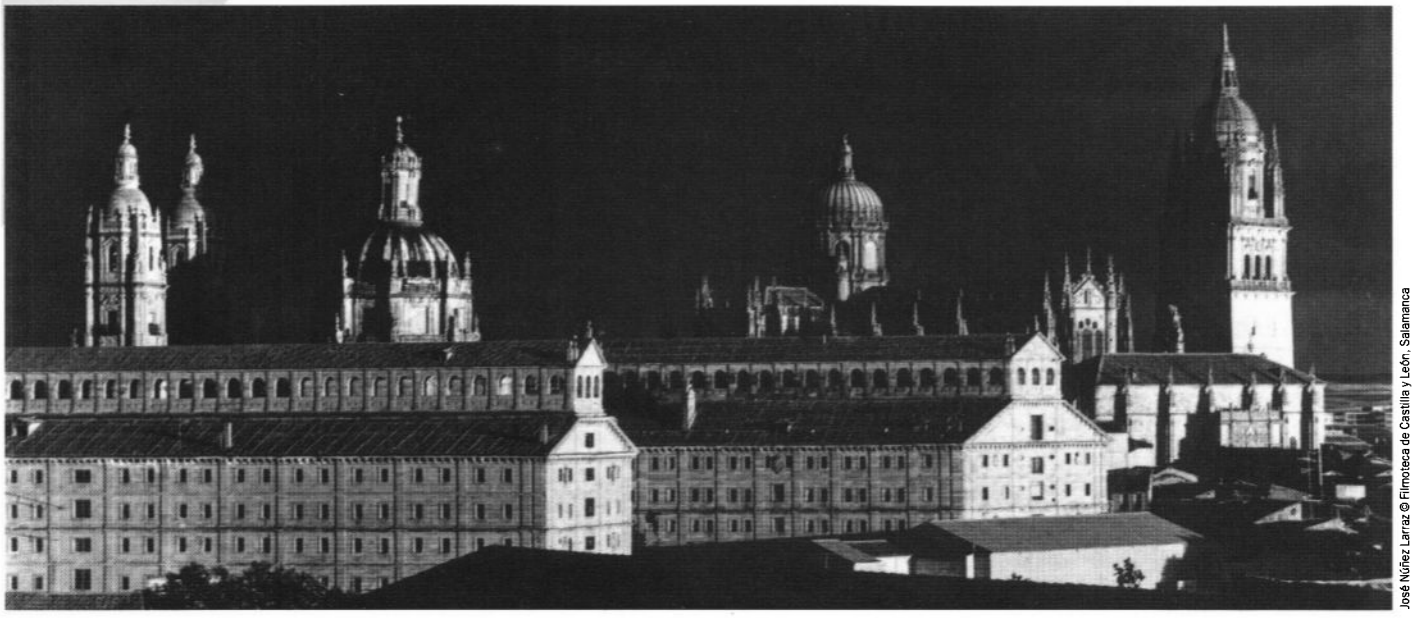
It was in the adjoining hall that, three centuries later, the Vice-Chancellor of the University crossed swords with the Francoist General Millán Astray, who had just exclaimed: "Death to the intellectuals! Long live death!" The Vice-Chancellor rose to his feet and said: "This is the temple of intelligence, and you have just desecrated it. Victory will be yours, but you shall not carry conviction, for to convince and persuade you need something which you lack: reason and a just cause." In the uproar caused by his remarks, soldiers had to "see him home". The incident took place on 12 October 1936, three months after the beginning of the Civil War, and the Vice-Chancellor's name was Miguel de Unamuno.

If we leave the University, after one last look at the statue of Fray Luis de León bathed in the light of the blue autumn sky, and take Calle Libreros and Calle Serranos, we come to the crossroads of Calle Compaña, an architectural



Crowning glory of the Old Cathedral. The octagonal lantern-tower known as the Torre del Gallo (centre).

Fabrice Rouland © Top, Paris



José Núñez Larraz © Filmoteca de Castilla y León, Salamanca

A "grove of lofty towers" (Miguel de Unamuno) stands out against the Salamanca skyline. In foreground, the Pontifical University; left, the spires of La Clerecía, and the New Cathedral (right).

treasure trove that includes La Clerecía (a former seminary) and the early-sixteenth-century Casa de las Conchas, a superb mansion whose façade is decorated with carvings of pilgrims' scallop shells. After crossing Plaza de Ben Benito, the scene of many bloody events in Spanish history, the baroque outlines of the Monterey Palace rise before us. Unamuno wrote as follows about the palace's tower, which he contemplated every day from his window: "These stones will remain to bear witness to the fact that, facing Nature, there was a Humankind, a civilization, a philosophy. They will remain to show the universe that there was reflection, order and equilibrium." Unamuno died on the last day of the tragic year 1936, but his statue, like that of Fray Luis de León, continues to proclaim loud and clear the right to think of freedom and the right to freedom of thought.

PLAZA MAYOR

A stone's throw away is *the* square, as it is known in Salamanca. Reflection, order and equilibrium seem to be the qualities sought by the architects of Plaza Mayor, which was built between 1729 and 1735. It is remarkable for its fine proportions and the elegance of its decoration, which is at once baroque and sober. Plaza Mayor is, in a sense, Salamanca's open-air salon, where everyone likes to foregather.

It is always thronged with people, whatever the time of day or night, or the time of year. But they do not go there just to be seen. Every inhabitant of Salamanca hastens back to Plaza Mayor after a trip away from the city, to make sure that it has not changed and that the colour of the sky above it is still as pure as ever, and to meet old friends who also love this unique square. To cross Plaza Mayor, stroll around it and enjoy its atmosphere is to belong to Salamanca. ■

Three events
220 B.C.: The city is taken by Hannibal
1218: Foundation of the University
1729: Construction of the Plaza Mayor

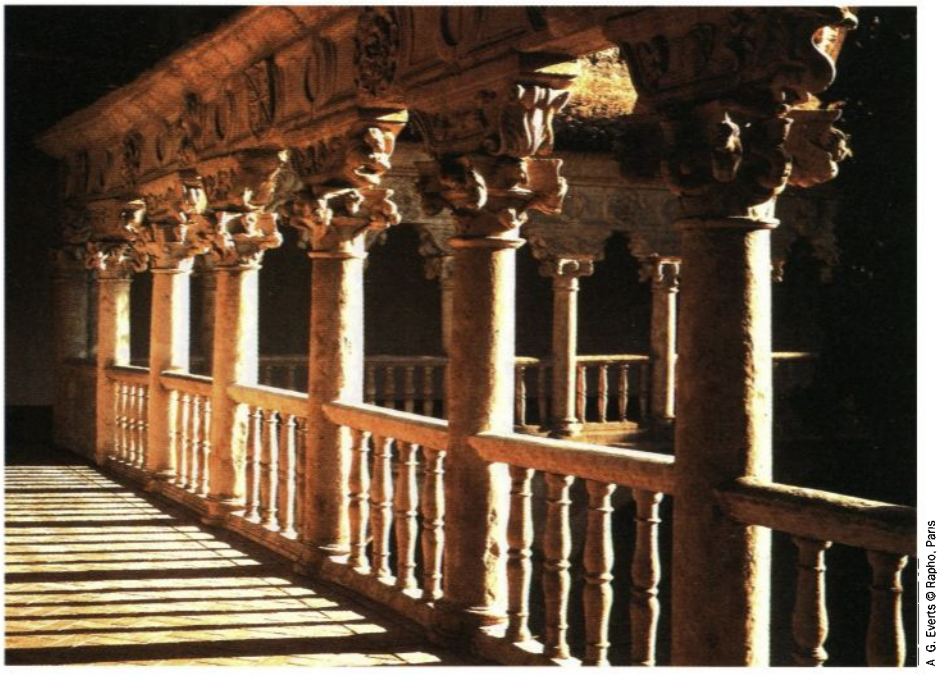
Three figures
Population (1995 census): 167,316
Population (1995, unofficial estimate): approx. 190,000
Number of students (1995): approx. 35,000

Three exceptional façades
The University (1519)
Convent of San Esteban (1610)
The New Cathedral (1650)

Three courtyards
Casa de las Conchas (1512)
Las Dueñas Convent (1533)
Cloister of the Kings (San Esteban) (1539)

Three palaces
Casa de las Conchas (1512)
Monterey Palace (1539)
La Salina or Fonseca Palace (1546)

Gargoyles sprout from the capitals in the cloister of La Dueñas Convent (16th century).



A. G. Everts © Rapho, Paris

Claude Nardin © Jacana, Paris

Waste-free manufacturing—feasible goal or wild goose chase?

by France Bequette

Greylag Geese in flight.

According to the United Nations Industrial Development Organization (UNIDO), world economic output is expected to double between now and 2010. In developing countries it is anticipated to nearly triple. It is vital, therefore, to identify manufacturing technologies that produce a minimum of waste and encourage their widespread use internationally, as well as preventing pollution at its source. As waste storage and treatment become more and more costly, "zero waste" manufacturing is in everybody's interest.

It was against this background that the United Nations University (UNU, see box page 44) launched a long-term research programme known as the Zero Emission Research Initiative (ZERI). The aim of the programme, which is the brainchild of Gunter Pauli, an advisor to the UNU's Rector, is to achieve technological breakthroughs that will facilitate manufacturing without any form of waste.

RESEARCH INTO ECOTECHNOLOGY

The ZERI programme is based on the principle that the ideal industrial system is one where total input equals total output, i.e. the raw materials used in the manufacturing process are fully used. The programme has a four-step approach. Firstly, it is compiling lists of the types of waste products that can be returned to industry for use as raw materials. Secondly, it is suggesting that certain industries should co-operate in "clusters", with waste from one industry being used as raw materials by other members of the cluster. Thirdly, it is encouraging the search for technological breakthroughs that would improve the cost-effectiveness of this kind of reorganization. Lastly, the programme calls for

FRANCE BEQUETTE is a Franco-American journalist specializing in environmental questions.

A. Le Toquin © Explorer, Paris

Bottles for recycling.

government backing which is necessary if its aims are to be realized on a large scale.

A number of companies agreed to take part in the programme, and five core projects were selected for research into industrial clustering. The industries concerned were fish farming and the brewing of beer and soya sauce; sugar; forestry; the paper and pulp industries; and plastics, cement and construction materials manufacturing. Two other projects are encouraging research into "technologies from nature"—the non-waste production of colour pigments and waxes.

VERTICAL CONCENTRATION

The brewing of beer and soya sauce creates a number of environmental headaches. It produces large amounts of solid waste that is often simply dumped because it is not financially worthwhile to convert it to animal food even though it has a high protein content. ZERI suggests that these two industries join forces with fish farming. This calls for extensive research into the effluents and solid wastes produced by breweries and the best way of feeding them directly to fish, the fish varieties best suited to absorb waste from breweries, and algae which could absorb waste from fish ponds and, thanks to sunlight and oxygen, convert it back into feedstuff for the fish.

Another problem faced by the beer and soya sauce industries is that of cleaning returned bottles and bottling machines. Harsh chemicals such as caustic soda and sterilizing agents are widely used, and as a result cleaning has to be done twice, once with chemicals and once with water to rinse out the chemicals. If sugar-based cleaners such as APG (alkyl polyglucose currently used in cosmetics and pharmaceuticals) were used, waste water could be directly channeled to fish-farming ponds. As the ZERI programme sees it, vertical concentration of these industries would bring mutual benefit and would be an ideal solution for recycling waste.

Another example, albeit on a smaller scale, concerns recycling branches and foliage from felled trees. The leaves of some tree species can be used to produce perfume, essential oils, colour pigments, and stabilizers (preservatives) used in food processing. Unlike the synthetic products that are currently used, all these natural products are biodegradable. The distillation process used to obtain them is often highly energy-intensive, but small wood debris could be used in mobile distillation units that would operate at the felling site. At the end of the operation residues from distilling could be used as a soil enricher. In this way the trees would be fully used, and highly skilled jobs would be created for foresters.

TECHNOLOGICAL BREAKTHROUGHS

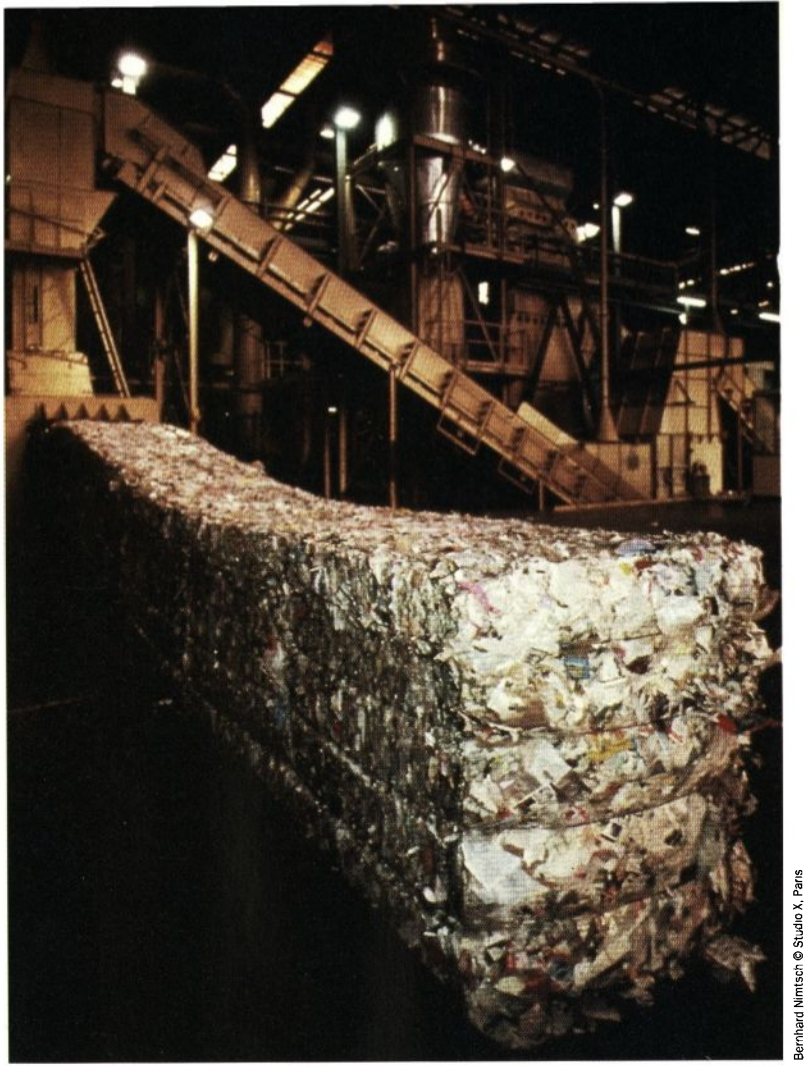
Everyone is in favour of recycling paper, but not everyone knows that it is an expensive operation and one that causes pollution. De-inking is inefficient (only 65 to 80 per cent of ink is effectively removed). A lot of water is needed and highly polluting toxic sludge is produced. In short, recycled paper is more expensive to produce than new paper. It will be necessary to develop de-inking technologies using enzymatic, microbiological, biochemical or magnetic methods, and produce a new ink that will be easier to detach from paper. The

The United Nations University

The United Nations University (UNU), which was founded in 1973 and has been operational since September 1975, is an autonomous body operating under the joint auspices of the UN and UNESCO. More than a university in the strict sense of the term, it consists of a network of institutions which serve as a bridge between the universities of the industrialized and developing countries. In addition to a central co-ordinating body at its headquarters in Tokyo (Japan), the UNU has five research and training centres around the world. The major themes studied are universal human values, economics and development, global life-support systems, new sciences and technologies and the dynamics of populations and their well-being. The environment is a constant that features in all UNU programmes.

resulting waste—sludge and short fibres—could be used in the building industry as a substitute for asbestos or for making soundproof panels and corrugated cardboard.

Meanwhile, fly ash from incinerated municipal waste and slack from the iron and steel industry could be converted into high-value-added raw materials for the construction business, as is already being done with coal dust. Limestone and gypsum are used in the cement industry and could partly be produced from these wastes. To be completely efficient, however, the size of the cement factory must correspond to the size of the town and the volume of waste incinerated.



Bales of waste paper in a recycling plant.

Bernhard Nimtsch © Studio X, Paris

NOT STRICTLY FOR THE BIRDS

The ZERI programme also encourages research into technologies based on processes and systems that are well known to nature but not to humankind. To date only the pharmaceutical industry has investigated these possibilities.

Take the case of colours, which are used in industries ranging from textiles to cars and from cosmetics to food. Industry has developed some 4,500 colour pigments, most of them based on petrochemicals. In textiles, most of the colour pigments are wasted in the water and only a fraction sticks to the fibres. In countries where there are strict environmental protection laws, companies are obliged to treat the polluted water at great expense. This partly explains why many textile companies have moved to developing countries where production costs are lower and environmental constraints not so severe.

The painting process used in the automobile industry has changed considerably over the past twenty years, largely due to the introduction of powder- and water-based paints. These newer techniques do not produce the sludge once made by car-paint workshops, which is handled as special industrial waste and incinerated with great care. However, metallic paints remain a potential health hazard.

To solve these problems the UNU suggests studying birds. The brilliant colours of the feathers of several tropical birds are not based on colour pigments but on the refraction of light that offers the variety of colours of the rainbow. Research into the refraction of light in synthetic fibres can build on optic fibre production technologies developed in telecommunications, although a lot of work still needs be done before this technology can be applied to automobiles.

Birds have another original gift to offer us. They produce various kinds of wax that are essential for their survival. Oddly enough their feather wax is liquid and easy to apply at -30° C, whereas it solidifies in the +40° Celsius heat of the tropics. The ZERI study will concentrate on migrant birds such as geese that fly at high altitudes between the North Pole and the Equator. Synthetic waxes that protect the paint on cars, trains, aircraft and satellites and reduce their friction are both polluting to produce and non-biodegradable. Before applying this process in industry, the molecular structure of wild goose wax must be studied in order to solve the mystery of why it remains liquid at very low temperatures and solidifies in great heat. ■

To find out more:

Contact the UNU/ZERI Programme,
53-70 Jingumae 5-chome,
Shibuya-ku, Tokyo 150, Japan;
Tel.: (81) 3 54 67;
Fax: (81) 3 34 06 73 47.

SOURCES:
"Zero Emissions Research Initiative", Gunter Pauli, 1994.
Technologies for Cleaner Production and Products, OECD, 1995 (also in French).

Jacques Brun © Jacana, Paris

THE SWAN SONG OF THE COW?

Up to 1,500 of the world's 4,000 to 5,000 domestic animal breeds may eventually disappear, according to the new edition of FAO's "World Watch List for Domestic Animal Diversity". Because of the rapid spread of high-yield commercial breeds, the genetic resources of certain animals are becoming impoverished. One case is that of Europe's dairy-cattle population, which is now dominated by the Holstein breed. Conservation of animal genetic diversity is essential because it allows farmers to select stocks and develop new breeds in response to environmental changes, threats from disease, and consumer demands.

FROM WORM TO WATCHDOG

Genetic engineering carried out at the University of Nottingham (United Kingdom) on a transparent aquatic worm, *Caenorhabditis elegans*, has endowed it with the capacity to turn royal blue when it comes into contact with toxic chemical waste or heavy metals. Since the intensity of the blue is proportional to the degree of pollution and the worm takes only a few hours to change colour, it may well become an efficient watchdog for monitoring water quality.

INSURANCE COMPANIES ACCOUNT FOR THE ENVIRONMENT

The UN's Intergovernmental Panel on Climate Change says that climate changes caused by human interference with the environment have already begun and that an increase in natural disasters such as floods, droughts and hurricanes is to be expected. The United Nations Environment Programme (UNEP) has pointed out that more than $50 billion compensation was paid out in the wake of storms and cyclones between 1987 and 1995, a period in which the number of floods and droughts also increased dramatically. Last November, 14 European and Japanese insurance companies signed a declaration promising to protect the environment by introducing environmental considerations into their risk-management policies.

FAO HAS TO TIGHTEN ITS BELT

The budget of the Food and Agriculture Organization of the United Nations (FAO), whose mandate is to help the 800 million human beings (including 200 million children under five) who do not have access to sufficient food, is equal to the amount spent in nine industrialized countries on dog and cat food in six days. For 1996 and 1997, FAO Director-General Dr. Jacques Diouf had to propose a no-growth budget ($697.8 million). Dr. Diouf said that he was sensitive to the concern of some member states to find savings in order to reduce imbalances in their national budgets, but warned against retreating before "the growing needs . . . of the world's poor".

A DEADLY NEW ALGA

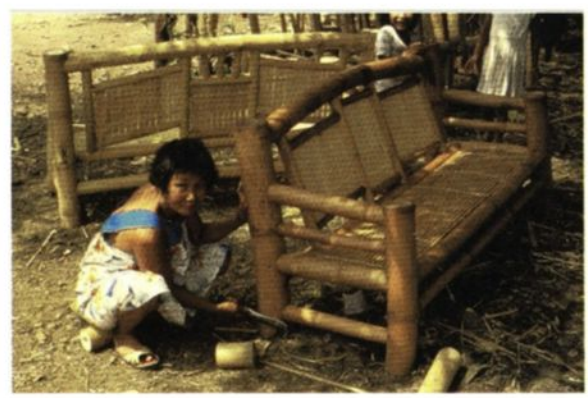
Late in 1994, the French Institute for Marine Research (IFREMER) detected the presence of a poisonous micro-alga (*Heterosigma carterae*) in several bays on the coast of Finistère, western France. The alga has proliferated to a concentration of several million specimens per litre, turning the waters where it thrives yellow-brown. Substances released into the water by the algae attack the gills and digestive tracts of fish and cause them to suffocate. The reasons for this sudden infestation are not yet known.

AIRBORNE PARTICLES THAT MAY COOL THE EARTH

Scientists now suspect that aerosols (microscopic particles of sulphur compounds and other pollutants floating in the atmosphere) may play a role in neutralizing or even reversing the greenhouse effect in certain of the world's highly industrialized regions. Aerosols are mostly produced by burning fossil fuels but are also emitted by living organisms and volcanoes. By reflecting sunlight back to space, these tiny particles directly affect the amount of radiation entering the earth's atmosphere and may help to slow down global warming.

GREEN GOLD

Bamboo (often called "green gold") and rattan generate global revenues exceeding $11 billion annually, and some 2.5 billion people worldwide depend on bamboo alone for uses ranging from building material to food. Concern about overexploitation and tropical forest destruction have led the International Plant Genetic Resources Institute (IPGRI), the International Network for Bamboo and Rattan (INBAR) and FAO to carry out joint research to improve the accessibility of bamboo and rattan resources, reduce pressure on natural forests, and create new job opportunities in rural areas.



F. Schlegel © FAO, Rome

A SENSE OF JUBILATION

Isabelle Leymarie talks to

TERESA LAREDO

© Teresa Laredo, Geneva

Teresa Laredo in concert at UNESCO's Paris Headquarters in 1992.

The internationally known Bolivian pianist and harpsichordist Teresa Laredo studied at the Academia Santa Cecilia in Rome (Italy) and the Mozarteum in Salzburg (Austria), and later taught at the Conservatory in Geneva (Switzerland). She recently carried out a study on women composers in Bolivia and made two recordings, one devoted to works by the Argentine composer Alberto Ginastera and by a number of Bolivian composers, and the other to the early works of Clara Schumann.

ISABELLE LEYMARIE
is a Franco-American musicologist.

■ You seem to feel that music is above all a state of exaltation, something almost sacred. . .

Teresa Laredo: Spanish has a term that describes perfectly how I feel about music: *júbilo* (jubilation). Music is a way of experiencing higher states of consciousness and communicating them to others. That is why I love teaching. I've often hosted musical events and I enjoy improvising for all kinds of audiences, flying in the face of barriers and compartmentalization. I like to explore all kinds of music and musical tastes. . . .

■ How did you become so eclectic?

T. L.: When I was a child I danced the flamenco with castanets and the *zapateado*. I also played the xylophone. My response to music was totally physical. I also danced my country's Indian dances. One of my grandmothers came from Granada. She had an expansive personality and sang. The other was Bolivian and was more withdrawn. She played waltzes and light music on the piano. Later I spent three years in Casablanca where I became interested in Arab music and its influence on Spanish music. In Morocco I played the *qanun* for fun, and studied classical harp at the conservatory. I like oriental music because, with its quarter tones, it reveals all the refinements of the soul. I also became interested in Indian music and have taught ragas on the piano.

■ Since the piano is not a tempered instrument, teaching Indian music must be difficult, especially for rendering slides from one tone to another.

T. L.: Yes, it was a little frustrating. Later I lived in Sydney (Australia) and was fascinated by the music of the Aborigenes—their culture, their musical instruments, especially the didgeridoo, a wind instrument made from a bamboo pipe. I found it all enchanting. Their music seems to capture the sounds of the sea and the wind, even the movement of ants.

■ Some American jazz musicians are very fond of the didgeridoo.

T. L.: I haven't got enough wind to play the Bolivian panpipes, so at home I hook up them up to a sampler, which synthesizes the sound and integrates it into the keyboard. I've done a lot of composing directly on this device. When I scrape my

foot on the floor, for example, I get sounds that evoke certain cosmic sounds when they are processed by the sampler.

■ Would you call this kind of composition concrete music?

T. L.: Yes, sort of, but combined with notes. When I use this instrument I take myself into the next century. I composed *Star Dust* while gazing at a drawing done by my little niece. You see the earth and the galaxies and children coming down towards our planet. They're like voices, vibrations of innocence that help us to purify ourselves. They arrive on earth and join together in celestial harmony. I am very keen on Andean pantheism, its cosmic and solar rituals and its celebrations of the equinoxes.

■ You are particularly fond of women's music. . .

T.L.: What interests me about women is that they've always made music while they were cloistered at home, at court or in convents. Later they played at family gatherings and gradually began to study in conservatories. Right now I am very interested in Amy Beach, an American contemporary of Olivier Messiaen, and in Seymanovska, a Polish woman who composed nocturnes that Chopin admired. In Fribourg not long ago I asked the audience to identify the composer of a piece I had just played. They all guessed it was Chopin, but in fact it was Seymanovska.

■ How do you manage to remember so many works from such varied sources?

T. L.: My memory seems to be tailor-made for that. What's more I have a wide range of experience. I've accompanied ballets, played chamber music and concertos and given solo recitals. I've experienced moments of ecstasy, especially when playing César Franck. Somewhere in Latin America in a place where there was no piano, I even mimed piano-playing to taped music in front of a rapt audience of children.

■ Where did you get your enthusiasm for Clara Schumann?

T. L.: I read her journal and her correspondence with Robert Schumann and Brahms when I was thirteen years old in Bolivia. Later I met a woman who had photographed some documents about Clara, and she gave me her archives. I admired Clara. She adored giving concerts; she didn't play her own works but other people's, and she always deferred to her husband. So I said to her with my inner voice, "Now it's your turn. I'm the person who will make your work known."

From then on, I decided to draw attention to minor works composed by women, those fleeting moments in life that men sometimes tend to disdain. I did research and made some amazing discoveries. It was thanks to Clara that I finally had the courage to start composing myself. I think I've interpreted her music faithfully. It has an aura that has to come out in every piece so that the music is radiant with the artist's inspiration.

■ Every note seems to have a life of its own.

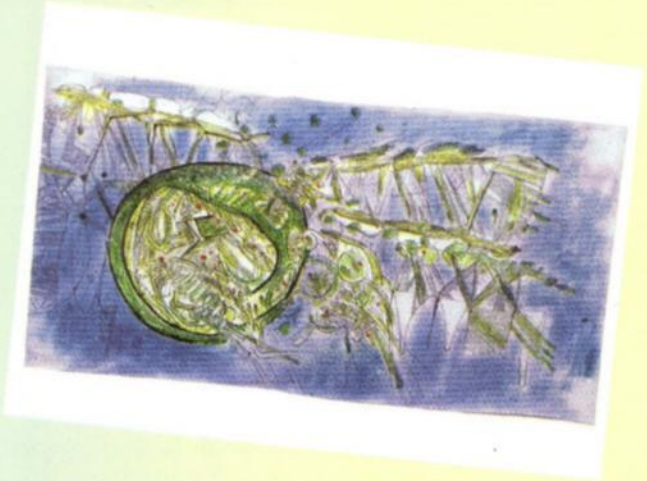
T. L.: Absolutely. This explains the connection between music, poetry and the other forms of art. When I compose, words and melody often come to me at the same time. Music has taught me to see our hidden qualities. The magic that music gives off comes from our inner being, from what one might call the soul—which is something unique to all of us and at the same time links us to others. ■

six flags of tolerance

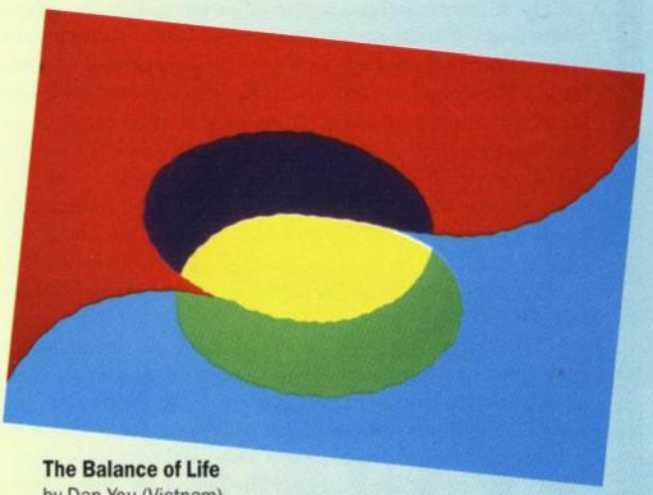
Six flags symbolizing the spirit of tolerance were hoisted for the first time at UNESCO headquarters in Paris on 16 November 1995 on the occasion of the 50th anniversary of the signing of UNESCO's Constitution. The flags were designed by six leading contemporary artists to mark the United Nations Year for Tolerance (1995), an initiative spearheaded by UNESCO, and were produced by UNESCO Goodwill Ambassador Pierre Cardin. Each of UNESCO's 185 Member States will receive a full set of the flags, to be flown in 1996. Here, the significance of each flag is indicated in a brief comment by its creator.

The Spiritual Globe
by Robert Rauschenberg (U.S.A.).
"This heart asserts itself as a spiritual organ setting the tempo of life on earth."

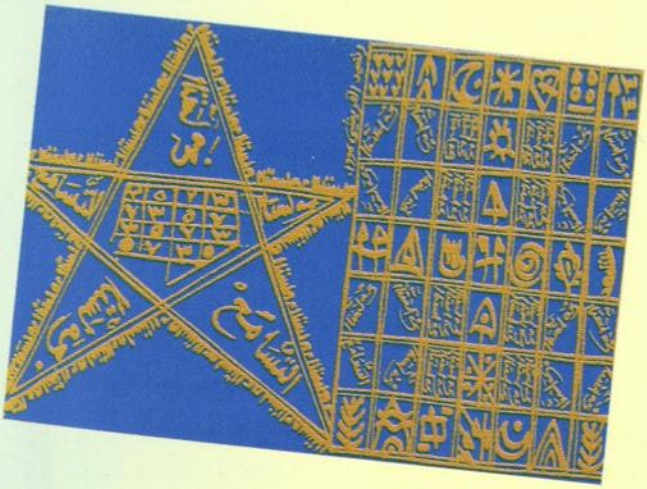
The Breath of Fraternity
by Souleymane Keita (Senegal).
"It rises like blue music in a blue sky, the image of hope as this 20th century ends."



The Earth is Our Skin
by Roberto Matta (Chile).
"You must love the earth above all else. It is truth and light."



The Balance of Life
by Dan You (Vietnam).
"Air, fire, earth and water, the source of all being and beyond any dogmas."



The Path of the Infinite
by Rachid Koraichi (Algeria).
"[The five-pointed star] shines in people's hearts, which are obscured by passions."

Harmony and Evolution
by Friedensreich Hundertwasser (Austria).
"The figure expresses mankind, and the colour blue means hope; it is the sign of the development of humanity, an integral part of the universe."

UNESCO

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The image and the word

by Alberto Moravia
Italian writer (1907-1990)

The notion that the book and the printed word are in rapid decline gained its widest currency following the spectacular success of the image and the media of visual communication—the cinema, television, advertising displays, strip cartoons, road signs and so on.

But few persons appear to have given much thought to the fact that the image owes its success, in turn, to the entry into humanity's arena of large masses of humanity, including the newly literate and the totally illiterate.

The illiterate person undeniably has a distinctive visual awareness. For him the whole world is a vast system of visual signs and symbols waiting to be interpreted and translated. The origin of writing itself, with its slow progression from the representation of an object to a form of symbolism, shows that primitive man used his eyes for tasks that civilized man later entrusted to his ears.

So in the first place, what we are dealing with is not so much a decline of the book as a triumph of the image, a triumph due in far smaller measure to those who have always been readers than to those who only yesterday did not know how to read.

If this is so, as I myself believe, we can expect at any time to see a steady decline in the influence of the image and a corresponding resurgence of the book. In other words, as millions upon millions of illiterate men and women learn to read and write, they are likely to abandon the primitive, direct language of the image in favour of the more elaborate, more indirect language of the printed word.

Modern man, moreover, uses the picture in ways that are basically different from those of primitive man. In the primitive world, it marked the first steps in communication; today it is only a provisional return to conditions that are perhaps temporary. The modern world is not so much a primitive world as one temporarily "primitivized". In other words, even in the progression from the language of the picture to the language of the printed word we can observe once again the phenomenon of ontogenesis (the development of the individual) which duplicates the phenomenon of phylogenesis (the development of the whole human species).

That this hypothesis is plausible is furthermore borne out by the huge circulation of paperbacks. Between the traditional book and the paperback there is not just a difference of quality and price. In reality the two types of book are profoundly different in nature.

The traditional book was rooted, indeed still is rooted, in an organic, stratified cultural context that has lasted for centuries. The paperback, on the other hand, scatters the seeds of the culture of all ages and all regions wholesale upon completely virgin soil. In the space of a few years, the entire population of our planet, only now barely emerging from illiteracy, has been inundated, without any preparation, with the culture of thirty centuries.

The danger is that this culture will be not assimilated, but thrown together, condensed and reduced to mere formulas and synthetic aggregations in a vast grinding operation of destruction. After which the masses would apparently be free to revert to the image, thenceforward the sole medium of communication.

This, indeed, may be the direction taken by Marxism in China with its rejection of the past as "Bourgeois". Mao Tse Tung has said that the vast masses of the Chinese people are like a sheet of blank paper on which one can write whatever one wishes. What will be written on this paper we still do not know.

Besides, the image itself has recently appeared to be reaching its limits. The fact that the spectator takes in the picture passively, without any effort of interpretation, ultimately results in the picture itself losing its full force and becoming a victim of this passivity. People watching television or a film at the cinema simply do not see what is happening before their eyes on the screen; or if they do see, they do not really comprehend. Passivity has atrophied their powers of concentration, rendering them inattentive to the point of blindness.

Of course, they "see" the road sign indicating a school, or the cowboy astride his horse firing his gun, but now what they "see" is nothing more than a response to the same conditioned reflex devoid of any mental reflection and hence any communication. Marshall McLuhan admits this when he says that "the medium is the message."

The decline of the book is by no manner of means, then, a certainty. Even if we ignore the fundamental fact that the book springs from nature, that is from the faculty natural to all human beings to utter words and shape them into organized speech, we should not overlook the fact that the book is made up of words which are "also" under certain conditions of poetic creativity, images. Thus there is no substantial difference between the image suggested by the book and the image that appears on the screen. In fact there is only one difference, though an important one: the image on the screen allows for no play of imagination; it is what it is.

Nevertheless, we must distinguish between one type of reading and another type of reading, between one book and another book. Reading some books is no more than a simple physical exercise. Such books, written for mass consumption, conventional in content and in style, are not read in the full sense of the word but rather are skimmed through by the reader: when the eye passes from one ready-made phrase to the next, from one cliché to another, the "reader" may believe he has been "reading" but in reality he has done no more than register the notations of a verbal mechanism that is as incomprehensible as it is insignificant.

For a book to be properly "read" it must first be really "written". If it is true that the book is in decline this is due not to the fact that the broad general public does not read but to the fact that they read books that have not been "written" but merely printed.

A book, then, must be thought out and created or it is not a book. Indeed, the future of the book is bound up with the poetry, creativeness, descriptive power and imagery of the writing. The future of the book will be assured if we succeed in "writing" books; it will perish if we content ourselves with merely printing them. ■

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Currently on-line are: an index of the contents of the last 22 issues of the *Unesco Courier*, Unesco press releases, addresses, fax, telex and electronic mail numbers of Unesco's regional offices, National Commissions and Unesco Clubs, the directory of Unesco databases and information services, colour images of the Japanese Garden and other architectural sites at Unesco Headquarters, as well as works of art such as Henry Moore's reclining sculpture.

To contact

THE UNESCO COURIER

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